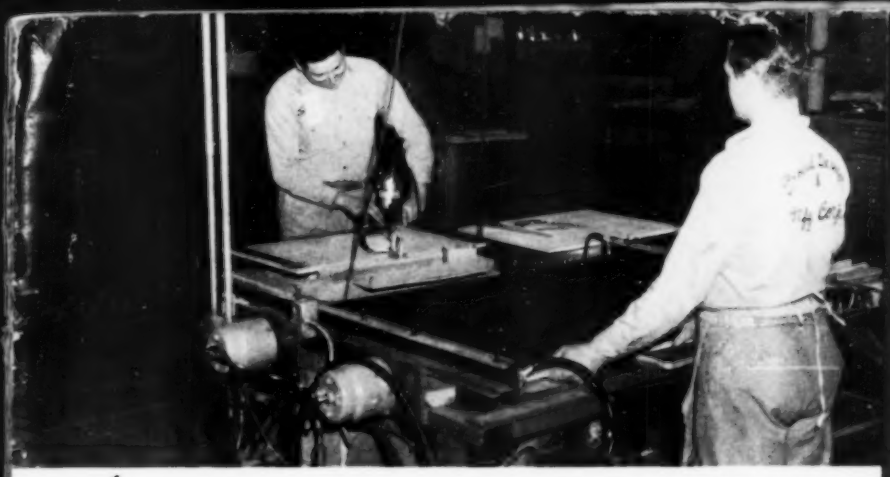
DECEMBER, 1954

WOOD and Wood Products

THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE OF THE WOOD INDUSTRY

A Vance Publication



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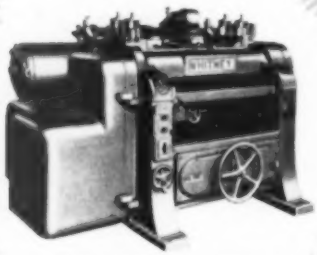
- Time-Saving Tools for Plywood-Plastic Table Tops (1)
- 400 ft. Conveyor Links Green Chain to Stacker (2)
- New Chipboard Unit Extrudes Quality Cores (3)
- Coming Changes in Wood's Industrial Markets
- How to Increase Productivity, Guard Mill Profits
- Trends—Production Line—Letters—Lumber Prices

WOOD SALUTES
Lee Robinson

Season's Greetings

And all Good Cheer from the folks at *Whitney*



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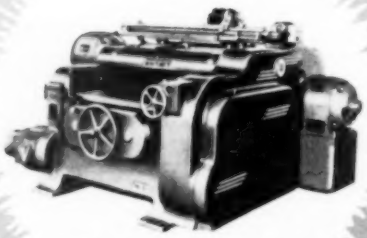

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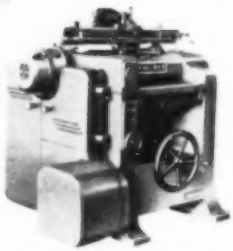

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Our engineers are working closely with manufacturers of woodworking machinery and tools in the application of Kennametal to woodworking operations. Performance data is now available on several interesting applications.

If you cannot obtain engineering service or maintenance information regarding Kennametal from your present tool supplier, write direct to KENNAMETAL, INC., Latrobe, Pennsylvania. And, when ordering blades and cutters, be sure to specify Kennametal.

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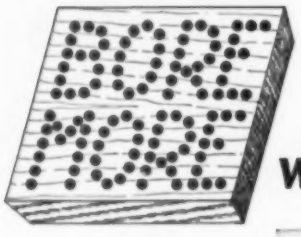

with a ROOT

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ROUTE TO SMOOTH EFFICIENT BORING OPERATIONS

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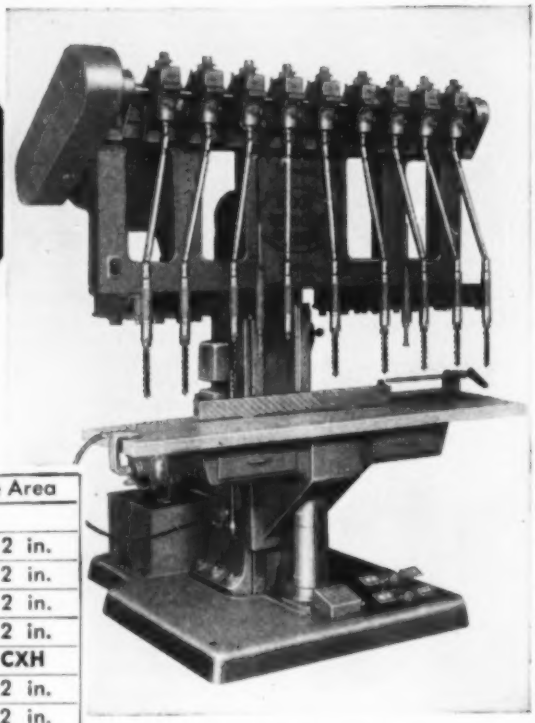

Style CH Gang Borer

A STYLE and SIZE FOR EVERY NEED

Max. Spindles	Max. Bore Area
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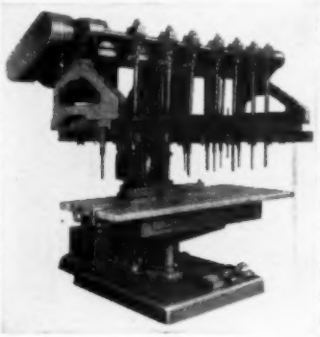
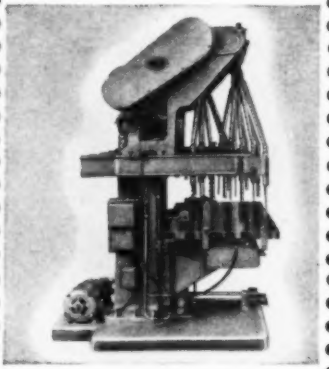
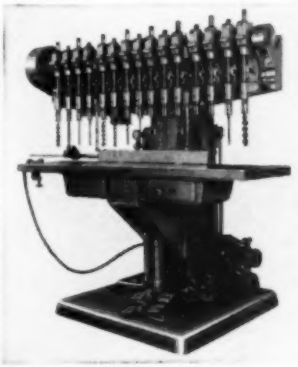
14	4 ft. x 12 in.
18	5 ft. x 12 in.
22	6 ft. x 12 in.
26	8 ft. x 12 in.
STYLES CXH-S2 and CXH	
28	4 ft. x 22 in.
36	6 ft. x 22 in.
36	8 ft. x 22 in.
STYLE CDH	
20	4 ft. in line
24	5 ft. in line
28	6 ft. in line



CXH-S2 Front Beam Gang Borer



CXH Regular Gang Borer



CDH Straight Line Multiple Borer

Root multiple gang borers are considered the most essential and most useful of all types of wood boring machines. Noted for their great productive capacity and unusual versatility, they can handle, in one pass, almost every type of multiple boring job regardless of hole pattern or variations in hole depth, hole size and hole counterbore. Write today for full information.

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WOOD and Wood Products

THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE OF THE WOOD INDUSTRY

DECEMBER, 1954

Vol. 59, No. 12

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(advertisement)

Mauk Talk

Some of the younger generation still have respect for old age—when it's bottled.

* * *

Many girls leave nothing to a man's imagination and everything to his self control.

* * *

Want to get your money's worth? Remember, that doesn't mean just the most board feet for the least number of dollars and cents. Money's worth includes the right material for the job—the correct cuts, sizes and quantity of the kind of lumber that suits the project.

Let us know all about your order, including end uses of material. We'll supply you with the correct order at the best possible price. Try us. The MAUK Lumber Co., of course.

* * *

Simple Celia says she doesn't care what her boyfriend gets her for Christmas—as long as it's a mink coat.

* * *

"Don't you know that drinking will ruin your stomach?"

"So what? I always keep my coat buttoned."

* * *

By the time a guy can read women like a book he's too old to start a library. In fact, he's the same gent who can't take yes for an answer.

* * *

Some women wear a girdle to help them keep a stiff upper lap.

* * *

Columbus was wrong. The world is flat—or will be by Christmas.

* * *

MAUK Seattle Lumber Co.
Seattle, Washington

* * *

The C. A. Mauk Lumber Co.
Toledo, Ohio

they like the MATTISON MOULDER at Tomlinson . . . . .

Since 1900 Furniture by Tomlinson has been a quality name from coast to coast. The finest equipment for all phases of production are a *must* . . . naturally they like the Mattison Moulder at Tomlinson.

The Tomlinson operator likes it because it is as easy to set-up, feeds so easy and produces so few rejects . . .

The Tomlinson foreman likes it because he gets production when he wants it and as he wants it—*good* . . .

The Tomlinson superintendent likes it because it produces high quality quickly and easily and his production schedules are consistently met . . .

The Tomlinson cost department likes it because it produces high quality work at low cost . . .

The Tomlinson management likes it because work comes through uniformly accurate, and proper fitting —a necessity in producing high quality bedroom, living room and dining room furniture by Tomlinson.

Yes — makers of Furniture by Tomlinson like the Mattison Moulder — and *you* will like it, too!

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ROCKFORD · ILLINOIS

WOOD and Wood Products
THE NATIONAL MANAGEMENT AND PRODUCTION MAGAZINE OF THE WOOD INDUSTRY

INDUSTRY NEWS . . . . . AND TRENDS

FURNITURE

Industry Activity at '54 Peak

The furniture industry is currently experiencing a better than seasonal improvement, with sales prospects brighter for the balance of the year. Seidman & Seidman, accountants for the furniture industry, reports, "Manufacturers booked more new business and suffered fewer cancellations in September than in any month since the January market. September orders were within 8% of those placed in the winter market month. The August-to-September increase was 12%, the best showing for this relationship since 1949. During the past three years the August-September rise in orders has averaged only 4%."

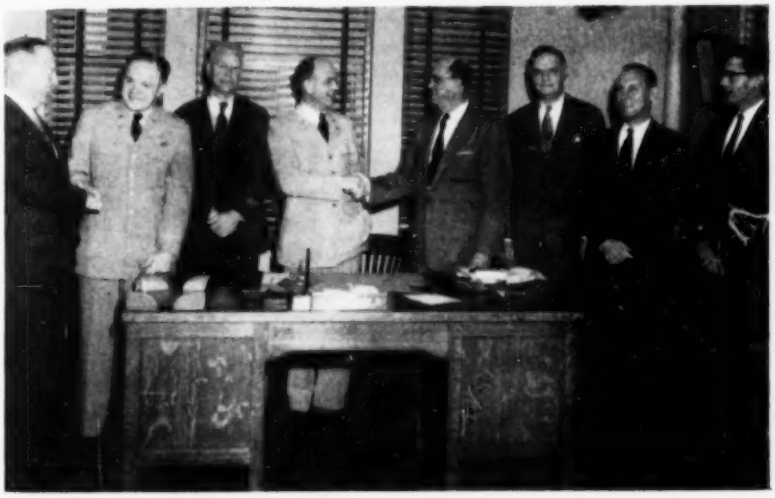
This year's September bookings were up 14% over the September, '53 figures, further narrowing the gap between the two years' totals to 8%. (The gap was 10% at the end of August.)

The report shows, "Shipments were up 8% in September, making it the best shipping month thus far in 1954. September failed to match the 1953 September shipments by 3%, but the total for the first three quarters was only 12% short of the total to September 30, 1953. This comparison started cut in January with a 17% deficit. Unfilled orders, which have ranged in prior months from 19% to 41% below 1953 at various month ends, were only 13% below at the end of September."

The National Association of Furniture Manufacturers reports that each month casegoods show increasing signs of equalling last year's activity. An 8% increase in orders and shipments over September last year reduced the total to only 7% under 1953 in shipments and 9% below in orders.

Upholstered furniture, which started the year 24% under 1953, is now only 14% behind a year ago. It shows promise of ending 1954 no more than 10% under 1953.

The NAFM sums up activity by pointing out that business is only 4% below 1952 and that "the furniture industry is progressing steadily toward a very successful year — one which should equal the second best in history."



Industry Aids Corps of Engineers With Lumber Procurement

Five leading lumber experts representing industry met recently at St. Louis with Corps of Engineers executives in charge of lumber procurement for the armed forces to study methods of procurement, distribution and other procedures connected with meeting defense lumber needs. Requirements for lumber and allied products for the Department of Defense for the present fiscal year is expected to be in the neighborhood of 800 million bd. ft. Shown, left to right: John B. Veach, president, Hardwood Corp. of America; Col. Frank A. Gleason, Jr., executive officer, St. Louis district, Corps of Engineers; Frost Snyder, president, Vancouver (Wash.) Plywood Co.; Col. George E. White, Jr., district engineer; Robert S. Douglas, vice-president & general manager, Weyerhaeuser Sales Co.; J. T. Fleishel, president, Fleishel Lumber Co.; George T. Olson, office, chief of engineers; and Wayne Bradley, chief, Lumber Control Div., St. Louis district, Corps of Engineers. Missing from photo was A. J. Glassow, Brooks-Scanlan, Inc.

Outdoor Furniture Sales Climb

Makers of outdoor summer furniture expect another good year in 1955 on top of a 1954 sales gain of 20%. Manufacturers gathering in Chicago during October for their annual showing based their optimism for future good business on plentiful incoming orders. They report a trend of more outdoor furniture being used indoors.

Sales Up 10% at Jamestown

A 10% rise in sales was reported at the recent Fall Furniture Market held in Jamestown, N. Y. Traditional and contemporary furniture sold equally well, one spur to activity being that orders placed at the market could in most cases be filled in time to catch the Christmas trade.

LUMBER

Wood Mobilization Plan Urged

A 12-point program for attaining full, proper and economical use of lumber and other forest products in the event of another national emergency was recommended recently to mobilization planners of the Office of Secretary of Defense by officials of Timber Engineering Co., research

affiliate of National Lumber Mfrs. Association.

Citing the "extravagant misuse of valuable raw material" in past wars, the result of inadequate prewar planning and postwar letdown, C. A. Rishell, Teco research director, strongly urged that current mobilization planning include at least ten specific areas to assure adequate lumber production, efficient distribution and proper utilization of wood in military and civilian products.

Heading Mr. Rishell's recommendations was complete utilization of raw material – to be attained by cut-up plants at which lumber would be cut, sorted and classified for specific uses such as ship and truck body construction. Leftovers from this highly specialized material would go into manufacture of camp cots, tent pegs and other smaller or less exacting wood items. He pointed out that during World War II "from 50% to 60% of the raw material for these purposes found its way into the refuse burner."

Other recommendations included continuous review of lumber and wood product specifications; maintaining war-production manufacturing and research facilities, particularly in laminating; start wood truck body production now; wood container development; lumber storage and handling systems capable of quick application here and abroad; additional studies of preservative treating and gluing; continuous research in laminated gun stocks and other wood items for weapons; manuals for procurement and inspection personnel; and development of new chemical products from wood.

For military construction, Ralph H. Gloss, Teco engineer, recommended to the mobilization planning group that all military building designs should be kept up to date with new technical data, and that engineered timber construction should be used more widely by the military in peacetime as the best training for its use in event of war.

Carbide cutters at Marlin Firearms Co. outlast steel by 65 to 1 before regrinding

Carboloy cemented-carbide-equipped cutter heads in Marlin's Salstrom multiple copying machine turn walnut gun stocks at 7,000 r.p.m.; worked a full year before regrinding.

Turning black-walnut gun stocks at Marlin Firearms Co., New Haven, Conn., sent steel cutter blades back for regrinding every four days. When Marlin switched to Carboloy cemented carbide cutter tips, regrinding was cut to *once a year!*

Carbides can withstand the abrasive action of particles found in wood that ruin steel blades. Rough, uneven surfaces and "ironed" surfaces are virtually eliminated.

Marlin's experience with carbides on many applications over the past five years demonstrates the kind of money-saving, time-saving results you, too, can get. Ask your tool manufacturer for cutters, knives and saws equipped with Carboloy cemented carbide. Or send coupon today for additional information on the application of carbides to woodworking operations.

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DEPARTMENT OF GENERAL ELECTRIC COMPANY
11195 E. 8 Mile Street, Detroit 32, Michigan

Rush me, at no cost or obligation, Bulletin GT-206A, Maintenance and Operating Practices for Tungsten Carbide Tools.

Name _____ Title _____
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Oak Flooring Demand Heavy

Oak lumber producers and oak flooring manufacturers are working with oak flooring distributors and retail lumber dealers to maintain maximum oak flooring production to meet the demands for home construction. Present rate of oak flooring production is consuming 28 million feet of oak lumber a week, representing 20% of all hardwood lumber of all species being produced in the United States.

General run of oak timber is 70% red oak and 30% white oak, but because of lax merchandising white oak flooring has been selling $5 to $8 per thousand below red oak.

Tie Export Outlook Good

Barring unforeseen international complications, increased opportunities for the export of railroad ties from the United States are foreseen for 1955 by Business and Defense Service officials at the U. S. Department of Commerce. Increased orders may be expected from such importing countries as those of the United Kingdom, Belgium, Mexico, Union of South Africa and Venezuela.

'55 Building Outlook Varies

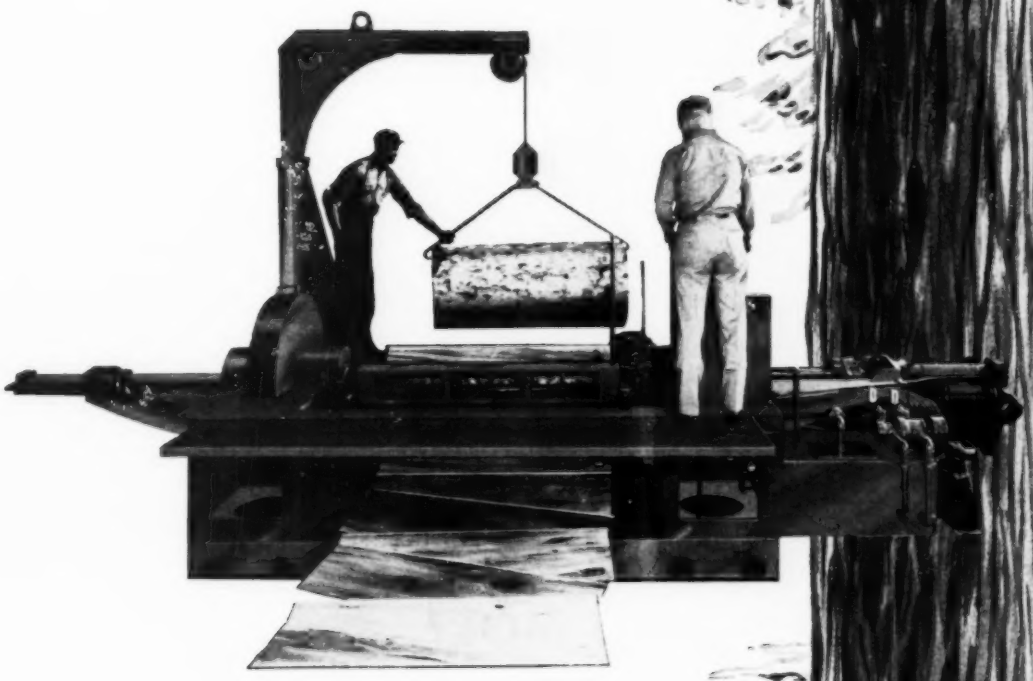
Economists, who generally foresee a steady if moderate unswing in business conditions for 1955, look for a slight drop in the construction field toward the end of next year. They see total non-farm housing starts next year at about 1,116,000, about 2% below the all-time record level estimated for this year.

This forecast is based on the decline in the formation families due to the low birth rate of the depression years. Factors offsetting this argument, however, are separation of doubled-up families, higher incomes

MONEY DOES GROW ON TREES . . .

and JACKSON

makes it more profitable



When it comes to a highly efficient veneer operation a JACKSON VENEER LATHE IS YOUR BEST BET! Surely . . . there are more profitable dollars to be had when you put the many features of a Jackson Lathe into operation. These precision built lathes have a central control panel that is simple to operate . . . a quick change gear box . . . hydraulic hoist . . . hydraulic chucking . . . Timken bearing equipped . . . and all-steel frame construction. Jackson also features a very efficient back roll operation. A letter, wire or telephone call will bring a Jackson Engineer to discuss your problem . . . there is no obligation.

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INDUSTRIES, INC.
VENEER MACHINES DIVISION
BIRMINGHAM, ALABAMA

giving earlier independence to young couples, wider distribution of income creating demand for better homes and easier credit.

Construction Nears New Record

Based on steady increases recorded in each month from January through October, the Departments of Commerce and Labor foresee a total outlay for new construction of $37 billion for 1954. This would compare with actual outlays of $35.3 billion last year, previous best year. The 10 month total this year stood at $30,829,000,000 against $29,520,000,000 a year earlier.

Expenditures for October were reported at $3.5 billion. While this was 3% below the September total, it set a record for the month and was 8% above October a year ago. Most major construction categories continued strong for the time of year, with private construction again showing a substantial gain.

Prefab Shipments Up 31%

A 31% gain in shipments of prefabricated homes has been recorded for the first eight months of '54 over a corresponding '53 period. Total houses built stood at about 48,000, indicating a probable record year end figure of 72,000 units. Estimated industry shipments totaled 9,200 houses in August for an all-time high, 5% greater than July and 54% higher than August, 1953.

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You'll Stick with us Because we Stick for You!

Delivery of your glue is only the start of what your Purchase Order entitles you to, as a customer of National Casein.

Our technical staff stays with you until your personnel is thoroughly indoctrinated. You get periodic check-up calls by sales representatives who are "shirt-sleeve" Glue Men. You get full benefit of our laboratories on tough adhesive problems. You get your requirements delivered as and when needed.

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PLYWOOD

Plywood Makers Fight Imports

The nation's producers of hardwood plywood are taking steps to curb soaring imports which pose a serious threat to the future of the domestic industry. The Tariff Commission has been urged to modify tariff concessions and impose quotas which currently give foreign countries having low labor costs (particularly Japan) an overwhelming advantage.

Imports of cheaply produced foreign hardwood plywood rose to 41 million sq. ft. in August, an increase of 16.4% over July and 89% over the August, 1953 figure. The '54 total promises to more than double that of '53 and reach a figure five times greater than in 1950. Year's total imports in excess of 416 million sq. ft. will represent more than a third of domestic consumption. A survey of 43 domestic plants reveals imports idled nearly 20% of the labor force in the first quarter with an accompanying loss in take home pay of nearly $2 million. Loss would total nearly $6 million for the industry as a whole.

Continued growth is emphasized in an Oct. 8 report from Nagoya, Japan, stating that "for the fourth month in succession the value of plywood exports (imports to U. S.) increased. The monthly total of $511,488 is greater than the total for the entire year of 1952 and illustrates the remarkable progress this industry has made and the prosperous condition it now enjoys."

It is the feeling of domestic producers that the tariff should be restored from 20% to 40% (from which it was cut in 1950) and that quotas should limit imports to approximately 100 million feet yearly.

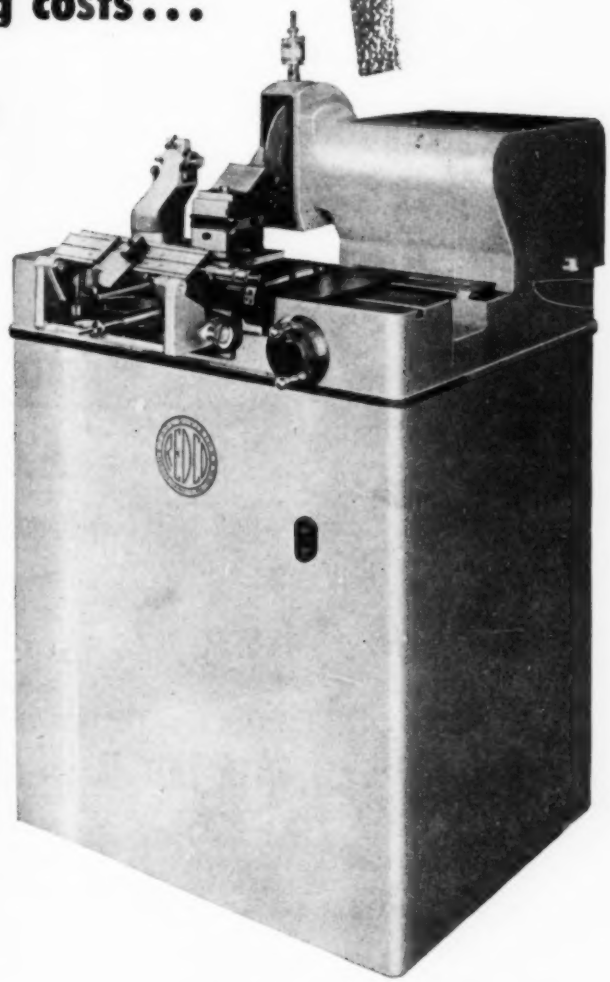
Hi-Fi Industry Uses Plywood

Used extensively for the all-important baffles and walls in tone chambers, hardwood plywood is playing a major role in the rapidly growing hi-fi industry. Karl Kramer, manager of technical services for the Jensen Mfg. Co., Chicago, explains that hardwood plywood is employed because it possesses the desired rigidity of form without producing undesirable vibration.

For baffles, many manufacturers use ¾ in. hardwood plywood, others ⅝ in. Gum is favored. For cabinets face veneers of oak, limba, birch and light mahogany are popular for light

Don't be a slave to high tool grinding costs...

Switch to the REDCO TOOL GRINDER and Save up to 35%!



Here's the Redco Tool Grinder equipped with the profile knife grinding attachment.

Accuracy, versatility, simplicity—they're the three key words that best describe the Redco Tool Grinder. It was developed by woodworking men for woodworking plants ...to save tool sharpening time, to reduce machine down-time and to keep tools at peak efficiency for operating cost savings up to 35%.

It's accurate...the Redco Grinder is capable of grinding within .001'' tolerances.

It's versatile... equipped with the proper attachment, the Redco Grinder resharpens carbide tipped cutter heads, router bits, saws, grooving cutters, and other woodworking tools—makes and resharpens high speed steel and carbide tipped profile knives.

It's simple to operate...the Redco Grinder has reference keys and index plate to assure correct cutting angles and precision finishes. After a short training course—given free at Redco—any normally skilled operator can keep your production tools in tip-top condition.

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REDCO TOOL DIVISION

RED LION CABINET CO., RED LION 1, PA.

finishes, and mahogany and cherry are seen frequently in dark finishes. Walnut and maple are also popular.

UTILIZATION

Sawmills Recover More Waste

Southern sawmills will be producing two million cords of chips annually for the pulp mills within the next five years, asserts Gus Jacobsen, president of Soderhamn Machine Mfg. Co., Talladega, Ala. This represents a tenfold increase in the 750 cords per day and 200,000 cords annually being produced as of Nov. 1 from sawmill waste in the South.

This recovery of waste, which began at Camp Mfg. Co. in 1951 with a production of 40 cords a day for its own pulp mill and increased to 90 cords a day in 1952 with the entry of the first independent sawmills into the production of pulp sized chips, is proving a source of welcome revenue for sawmills. At the same time the chips are in great demand by pulp mills seeking to expand yields from southern forests.

At least 35 debarking and chipping installations have been placed in operation during the past two years, and it is probable this figure will be nearly doubled within the next year.

Treated Wood Adds to Utility

All groups interested in wise utilization of forest products should cooperate in furthering the use of pressure treated wood in places where untreated wood will either decay rapidly or be attacked by termites. A spokesman for the American Wood Preservers Association, speaking at a recent American Forest Products Industries conference, asked cooperation from all segments of the industry if wood is to keep pace in the struggle against competing materials.

EDUCATION

Weigh Education-Industry Needs

Seeking an improved course of study to prepare young men for a career in forest products, as well as greater industry acceptance for such men, 42 educators, researchers and industry representatives met at Madison, Wis., recently. Prof. Alex Panshin, chairman of the Forest Products Research Society education committee and head of wood technology at Michigan State College, led the discussion which developed approaches to three major education-industry problems:

1. Types of training to be offered men planning a professional career in the forest products industries, including early introduction of professional courses in the 4-year program and vocational-type training through short courses and clinics.

2. Selling industry on the need for technically trained men, making use of the National Lumber Mfrs. Association, American Forest Products Industries and other trade organizations as liaison between industry and education.

3. Interesting qualified young men in wood technology and forest utilization as a career.

COMING EVENTS

Dec. 1-2: Great Lakes Section Meeting, FPRS, Grand Rapids, Mich.

Dec. 7-8: Conference of Film, Sheeting and Coated Fabrics Div., Society of the Plastics Industry, Inc., Hotel Commodore, New York, N. Y.

Dec. 8-10: 45th Annual Forestry Conference, Fairmont Hotel, San Francisco, Calif.

Jan. 3-14: Winter Furniture Show, Chicago.

Jan. 24-27: Plant Maintenance & Engineering Show, International Amphitheatre, Chicago.

Feb. 28-Mar. 1: Meeting of Wood Products Section, Southern Safety Conference, Jung Hotel, New Orleans, La.

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REGARDLESS . . . of moisture content of the stock, glue line area, thickness, TEMPERATURE OR VISCOSITY . . . Automatic Tuning, by means of the Bell Radio Frequency Generator *electrically adjusts* to deliver a full constant rated power throughout the curing cycle.

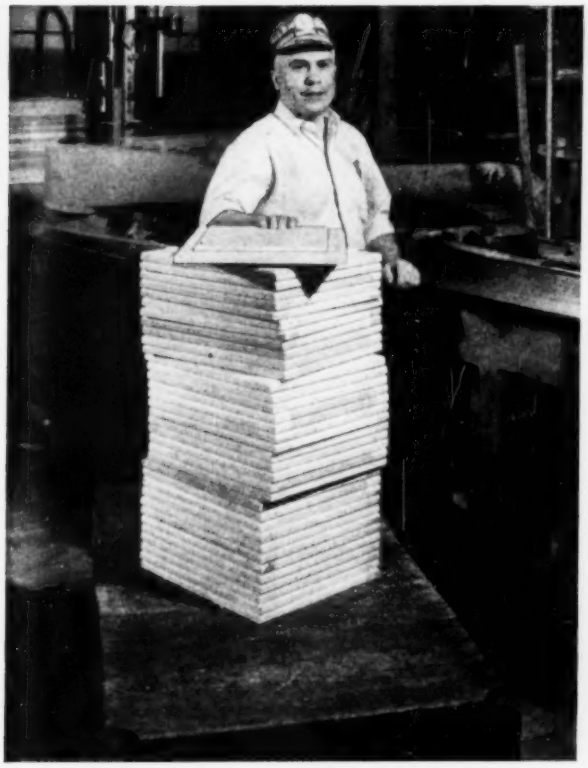
Automatic Tuning with the Bell 300 results in:

1. Shorter Curing Time . . . more production
   Dependent upon panel thicknesses, number of glue lines, area and degree of cure desired . . . time varies from 15 to 90 seconds for average work.
2. No Adjustments During Curing Cycle
   The operator concentrates on laying up the next press load NOT, adjusting generator output.
3. Fool Proof Operation
   Automatic feed, automatic pressure, automatic cycling and AUTOMATIS TUNING makes the Bell a machine that can be operated with the minimum of skill and training.

Immediate Delivery

Bell WOODWORKING MACHINES

The BELL MACHINE COMPANY, 78 Jackson Drive, Oshkosh, Wis.



For Edge-Sanding . . . One 3M Abrasive Belt does the work of six ordinary belts!

Yes, it's true. Three-M-ite type belts last up to six times longer than ordinary edge-sanding belts. They're fast-cutting, cool-running, and *sharper*. Look at these typical examples of Three-M-ite superiority: Georgia furniture maker sanding edges of radio cabinet doors . . . *40 hours* production from one 3M belt, 8 hours with ordinary belt. North Carolina furniture maker reports: *3 days* production with a 3M belt, ½ day with ordinary belt. Indiana maker of television cabinet doors turned out 72 sets of doors with one Three-M-ite belt—only 12 sets with an ordinary belt.

Here's proof positive that Three-M-ite type belts are best for edge-sanding. They're heat resistant, unaffected by humidity changes. And they cut faster, last longer, produce finer finishes.

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3M ABRASIVES

LETTERS to the EDITOR

Pleased with Huttig Mill Story

Editor, WOOD & WOOD PRODUCTS:

We were al delighted with your October issue containing the article on the modernization of our Huttig Mill. The story was well told.

By way of sequel to your article, the Huttig Mill has recently set some new product records. This is the result of working the "bugs" out of the new installations. Our job is by no means done, for not only do we expect to improve the efficiency of the equipment already installed but we also have in mind further improvements to keep this mill in the forefront of the southern lumber industry.

Thanks again for your fine handling of the Huttig story.

—Robert H. Evans, Gen. Mgr.
Forest Products Division
Olin Mathieson Chemical Corp.

Subscription, Please

Editor, WOOD & WOOD PRODUCTS:

We would sincerely appreciate your putting our company on your mailing list for Wood & Wood Products, as we have had occasion to examine this publication at different times and found in very interesting. Thank you.

—R. E. Spring, Gen. Mgr.
Spring Wood Products Co.

Wants October Magazines

Editor, WOOD & WOOD PRODUCTS:

In the October issue of Wood & Wood Products was very interesting article "Expandable Plant, New Machines Push Prefab Home Output Up 30%." This was on pages 34-35 and shows some very fine pictures of opeartions within our plant. Would it be possible for you to send us between 12 and 15 copies of this article or the complete issue of that date?

—E. M. Best, Secy.-Treas.
W. G. Best Factory-Built Homes

Conveyor Booklet Requested

Editor, WOOD & WOOD PRODUCTS:

We would appreciate your sending 25 copies of the booklet from which the article "Break-Even Point Too High? . . . Try Conveyorized Finishing" was taken. This article by R. J. DeBurgh was published in the Nov. 1954, issue of Wood & Wood Products.

—E. Sigurd Johnson
University of North Carolina.

Briquette-Making Machines

Editor, WOOD & WOOD PRODUCTS:

Will you be kind enough to advise us if there are any manufacturers of wood briquette machines? If so, we would appreciate their names and addresses.

—Vice President,
New York City.

Wants "Moulding Wood Waste"

Editor, WOOD & WOOD PRODUCTS:

I am interested in obtaining, if possible, the July, 1954, issue of Wood & Wood Products. Particularly interesting to me is the article on page 28 of this issue, "Moulding Wood Waste into Saleable Products."

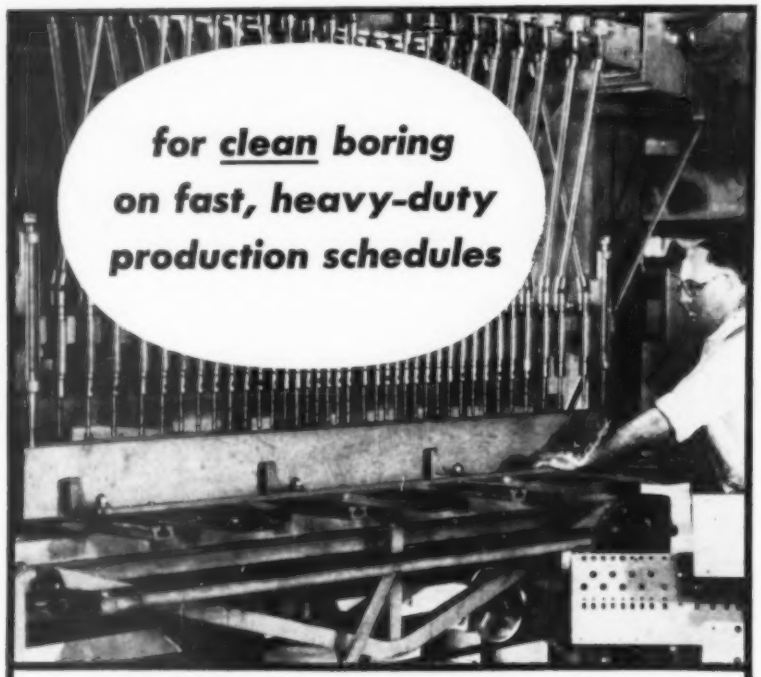
—Lew W. Throssel
Elcora Millwork & Mfg. Co.

"Target Line" Lumber Handling

Editor, WOOD & WOOD PRODUCTS:

We would appreciate your sending us a copy of the article "Target Line" System for Precision Lumber Handling, developed by Ivory Pine Co., printed in your May issue, and mentioned in the Western Pine Association Research Note 8.909.

—A. M. Nelson, Prod. Mgr.
The Diamond Match Co.



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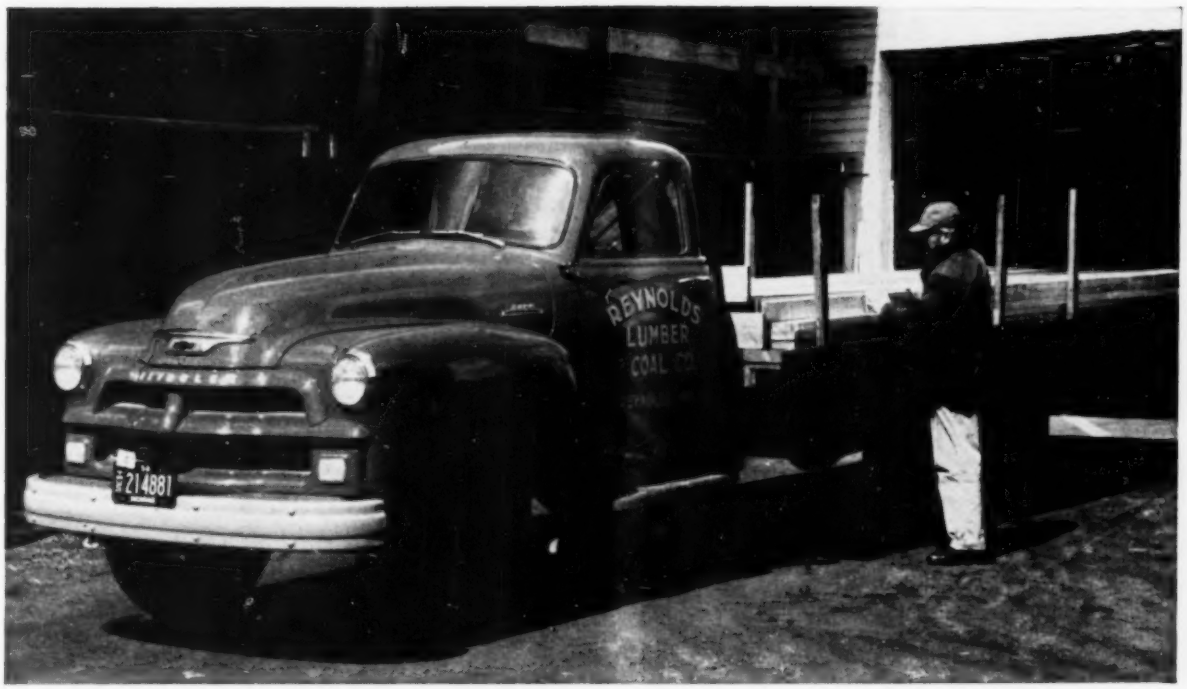


NEW CHEVROLET TRUCKS

keep going longer, keep going for less!

From the day you first put it on the job until the time comes to trade, your Chevrolet truck's going to do more work for you while you spend less to keep it going. Here's why you can count on it—

INCREASED POWER SAVES YOU PLENTY

Chevrolet's high compression ratio (in each of its three great engines) develops more power. That means you go longer before filling the tank! It means, too, you've got extra power handy whenever you need it—for greater acceleration, for an easier pull up steep grades, for steadier going through mud and sand on off-the-road jobs. So, you save not only on operating costs—you save *time* as well.

GREATER RUGGEDNESS PAYS OFF IN LONGER LIFE

Two-ton models, for example, are equipped with heavier axle shafts. All models have newly designed clutches and stronger frames. The best part of it is that, throughout their longer life, you spend less for their upkeep. For complete details about the model you need, see your Chevrolet dealer. He'll tell you whatever you want to know, then give you the best news of all: Chevrolet trucks are priced lower than all other lines! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

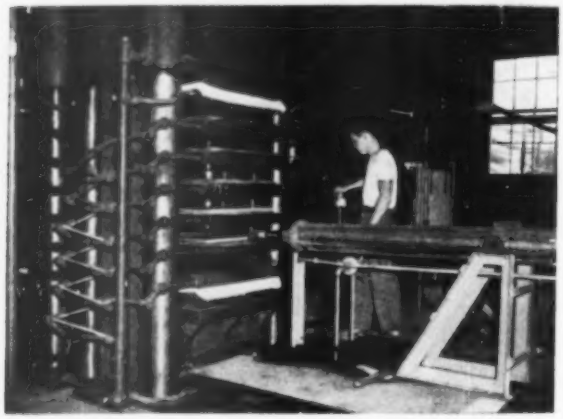
MOST TRUSTWORTHY TRUCKS ON ANY JOB! CHEVROLET

CHEVROLET ADVANCE-DESIGN TRUCK FEATURES

THREE GREAT ENGINES—The new "Jobmaster 261" engine* for extra heavy hauling. The "Thriftmaster 235" or "Loadmaster 235" for light-, medium- and heavy-duty hauling. **NEW TRUCK HYDRA-MATIC TRANSMISSION***—offered on ½-, ¾- and 1-ton models. Heavy-Duty **SYNCHRO-MESH TRANSMISSION**—for fast, smooth shifting. **DIAPHRAGM SPRING CLUTCH**—improved-action engagement. **HYPOID REAR AXLE**—for longer life on all models. **TORQUE-ACTION BRAKES**—on all wheels on light- and medium-duty models. **TWIN-ACTION REAR WHEEL BRAKES**—on heavy-duty models. **DUAL-SHOE PARKING BRAKE**—greater holding ability on heavy-duty models. **NEW RIDE CONTROL SEAT***—eliminates back-rubbing. **NEW, LARGER UNIT-DESIGNED PICKUP AND PLATFORM STAKE BODIES**—give increased load space. **COMFORTMASTER CAB**—offers greater comfort, convenience and safety. **PANORAMIC WINDSHIELD**—for increased driver vision. **WIDE-BASE WHEELS**—for increased tire mileage. **BALL-GEAR STEERING**—easier, safer handling. **ADVANCE-DESIGN STYLING**—rugged, handsome appearance.

**Optional at extra cost. Ride Control Seat is available on all cabs of 1½- and 2-ton models, standard cabs only in other models. "Jobmaster 261" engine available on 2-ton models, truck Hydra-Matic transmission on ½-, ¾- and 1-ton models.*

ALONG THE PRODUCTION LINE



HOME MADE HYDRAULIC RAM UNLOADER operates from hydraulic elevator

Hydraulic Ram for Unloading Hot Press

Unloading a Multi-platen Hot Press was simplified in a New England plant by means of a home-made hydraulic ram unloader mounted upon a hydraulic evelator. The ram is supported by a steel frame and is controlled by a hand operated valve raised to a convenient operating height. The end of the hydraulic ram carries a projecting lip shaped to permit engagement of the pull-plate of the carrier caul. When the press is opened, the ram is raised to platen levels to push loaded cauls out of the press onto a truck positioned at the same level on the opposite elevator.

Salvaged Waste Given Inventory Value

Too Little Value Is Placed on Waste salvaged for use in fabricating wood products. In a furniture plant which regards waste salvage as a major factor in the production of its major products, all usable waste is sorted at the conclusion of each job. The job is credited for an arbitrary value decided upon by using current market value as a basis, taking into consideration any additional labor and machining costs required to bring the material into proper condition for manufacturing purposes, and charging it back to raw material stock. This stock is charged out at its new inventory value when used.

Some Leakage Good in Hydraulic Systems

Did You Know That Some Leakage Is Desirable for efficient operation of hydraulic systems used in operating woodworking machinery and equipment? A hydraulics engineer advises that many components in a hydraulic system require slight internal leakage to provide lubrication for moving parts as well as suffi-

Helpful 56 page book FREE

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This free book is based on facts and experience from many years' use of Foley precision saw filing equipment in thousands of plants. It contains pictures and helpful data showing how firms have actually increased sawing production 25% to 40%, lengthened saw life, reduced breakage, produced better work, and have lowered maintenance costs (one firm reports an annual saving of $350). Book includes instructions illustrating how automatic sharpening can benefit you. Request Manual No. 100—no obligation.

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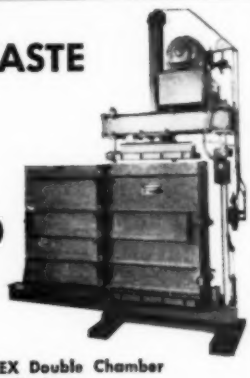
TURN WOOD WASTE into PROFITS with a CONSOLIDATED Baling Press



Package and sell shavings, fibers and chips to paper mills — hardboard and molded product makers — poultry and dairy farmers — nurserymen and florists — others.

DUPLEX Double Chamber Hydraulic Press

Loads & Compresses Simultaneously

- The DUPLEX will produce over 35 bales (100 lb. each) per hour.
- These bales are small and dense for lowest shipping and handling costs.
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Proper packaging means baling to insure uniformity of material and low costs. Consolidated hydraulic baling presses give you speedy, low-cost baling of your shavings, fibers and chips, converting waste products into extra income. There is a Consolidated press to fit your needs.

Write for full details and catalog.

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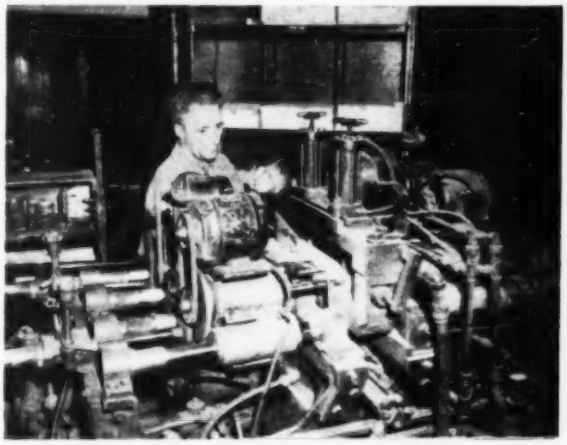
Can You Use $5?

This department is devoted to ideas of readers for solving special job problems and making work flow more efficiently "Along the Production Line." Paying off for their users, these ideas may help you lick a similar problem. If YOU have worked out a special method, machinery adaptation or other practical production idea, send it in with a clear picture or sketch. We'll pay $5 for each original item published in this department.—*The Editors.*

cient clearance to function without sticking at a wide temperature range.



MULTIPLE-SPINDLE automatic horizontal boring machine incorporates two opposing banks of spindles

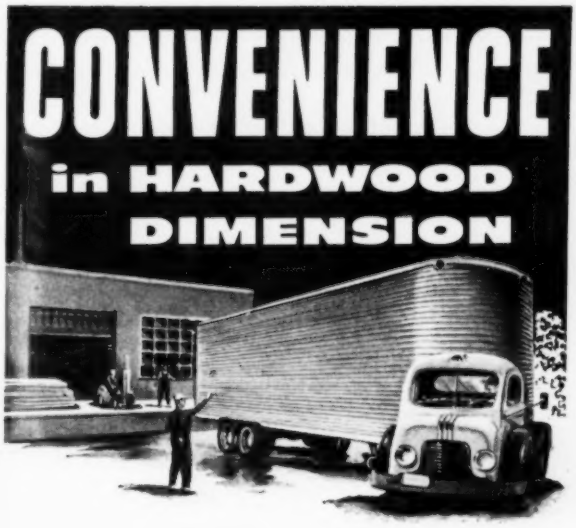
Horizontal Multiple Spindle Borer

A MULTIPLE-SPINDLE automatic horizontal boring machine was designed and built by a paper machinery plant for the boring of different shell woods. This machine incorporates two banks of spindles mounted in opposing alignment, which mount a dual boring bit and counterbore combination and a countersink in alternate arrangement.

The combination bit and counterbore bore a hole to accommodate a truss rivet and rivet shoulder and the alternate countersink bores a recess to receive the rivet head. The shell wood to be bored is held by a pneumatic clamp in the center and the two boring banks, carrying boring and countersinking units, are advanced to the wood automatically. Bits are kept clear of chips and shavings by a compressed air jet directed against the work at the point of boring. All heads are adjustable for spacing and length of boring stroke.

Proper Floor Support for Lift Trucks

PROPER FLOOR SUPPORT is required for lift truck operation inside the plant. Engineers recently determined that trucks of this sort impose a dynamic load of about 25% more than the static weight of the loaded machine. This figure is based upon practical strain measurement and special tests in which measuring apparatus was applied to the underside of the floor to indicate deflection of structure.



PRECISION W-B WOOD PARTS

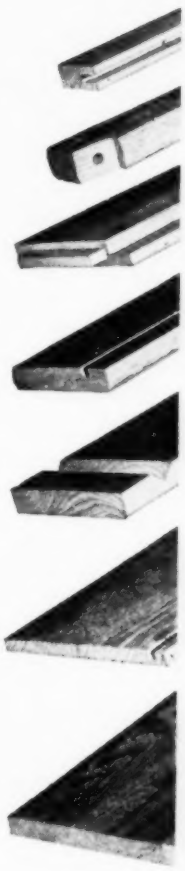
Thrifty convenience is part of the service you get on Hardwood Dimension from Williams-Brownell. You order only the items you require, in the quantity you want, for delivery when you need them.

By setting up your buying schedule well in advance, you can reduce your inventory investment to a minimum, eliminate waste, and increase the efficiency of your entire operation.

During peak periods, *W-B Precision Wood Parts* will help you solve your production problems.

Manufactured of properly kiln-dried Appalachian hardwoods, *W-B Precision Wood Parts* are available solid and glued, cut to size, and machined to pattern. Prompt delivery by truck to all points East of the Mississippi.

For convenience that saves you money, too, write for detailed information.



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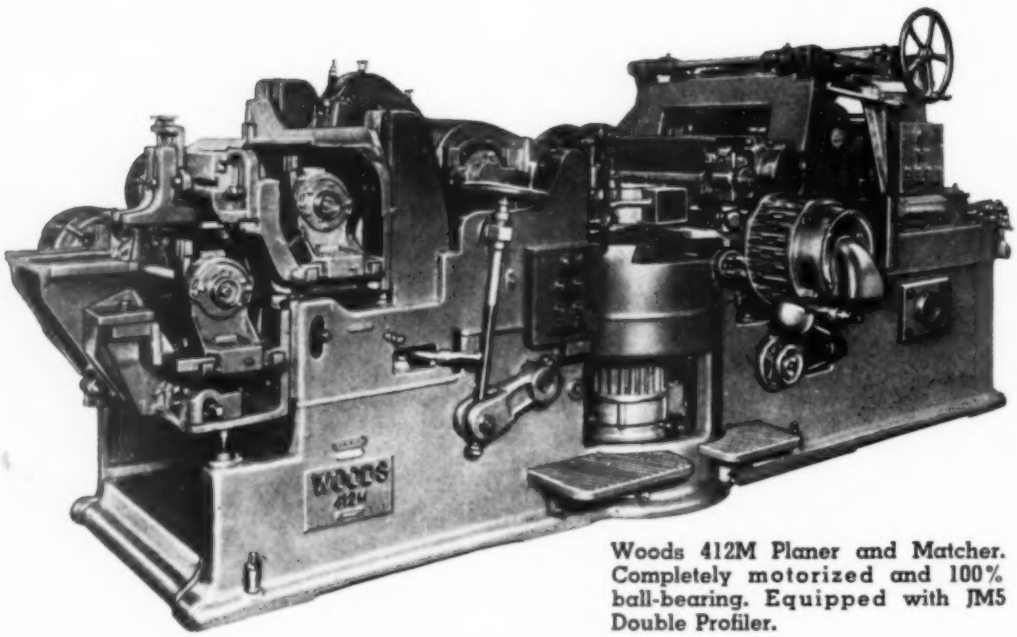
built by "The Planer of Woods"®



Woods 412M Planer and Matcher. Completely motorized and 100% ball-bearing. Equipped with JM5 Double Profiler.

This is what it will do for YOU!

★ SET NEW PRODUCTION RECORDS —

★ CREATE HIGHER STANDARD OF QUALITY —

★ REDUCE MAINTENANCE COSTS —

★ CURTAIL DOWNTIME.

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Even 5% Can Change a Trend!

"Like charity, sound marketing of wood 'begins at home.' The place to begin protecting, rebuilding and developing (yes, and expanding) wood's markets is right in the industry's production plants. Every sensible measure must be adopted there to assure the economical output of quality finished products which the consumer will buy because he is satisfied that those products are worth what he is asked to pay for them."

That quotation from the July 1954 editorial of WOOD & WOOD PRODUCTS is repeated here because the more we look at Stanford Research Institute's projections for wood and wood products in the next 20 years, as reported to Weyerhaeuser Timber Co., the more we are convinced that intelligent management can correct some of the indicated trends which at the moment appear unfavorable to wood. This industry is not so devoid of brains and resourcefulness, or of the will to improve its operations at every point along the line from raw log to finished product, that it will accept all of the Stanford projections as "inevitable and inexorable signs of the times."

The study cost the Weyerhaeuser folks a pile of money, but it has shown them a challenging problem and they're doing something about it. They know that trends are subject to change! As a beginning, they've announced a program covering every company employee whose job and family security could be affected by a continuance of trends that would mean more competition from other forest product manufacturers, more inroads by new materials on markets where wood once was king, and less lumber per dwelling unit. They call it "P & Q" – "P" for Production and "Q" for Quality.

"Many people," their announcement states, "are depending on the ability of companies like ours to meet the competitive forces which now face us. Your local groceryman can tell you what steady payrolls for his neighbors mean to his business. The same goes for a lot of other business and professional people in your community. . . . High production costs and loss of markets have already seriously crippled many coal mining towns. . . . Our company does not intend to sit idly by and let any situation similar to the coal crisis develop in the forest products industry."

Weyerhaeuser's "P & Q" program has a simple major objective: *"To make better quality products at a lower cost"* . . . by enlisting the support of everyone in the company to find ways to cut waste and improve quality. Is there any producer, processor, converter or fabricator of wood – anywhere – who would not profit by the adoption of a similar basic program of watching his P's and Q's? Is there any management man who cannot see that a vast step-by-step program of improved operations built upon this simple foundation would result in an enormous amount of waste elimination, cost reduction and end-product improvement throughout the wood industry?

Suppose, for the sake of discussion, every worker along every wood production line raised the productivity or quality of his particular operation by as little as 5%. Think what that would mean on an industry-wide basis – in terms of better quality products at lower cost to the consumer. It would be only a start, to be sure, but a long stride toward ultimate reversal of some Stanford study trends now unfavorable to wood.

Put it another way. Suppose only 5% could be lopped off the price of every piece of wood furniture by cutting down the waste incurred in its production. Apply the same reasoning to almost any type of wood product you can name. You'd come up with some staggering figures. And you'd find that as little as 5% would go far toward helping the industry protect, rebuild, develop – yes, even expand – wood's markets. Lord knows, we all have P's and Q's, and 5% is little enough!

Well . . . what are we waiting for?

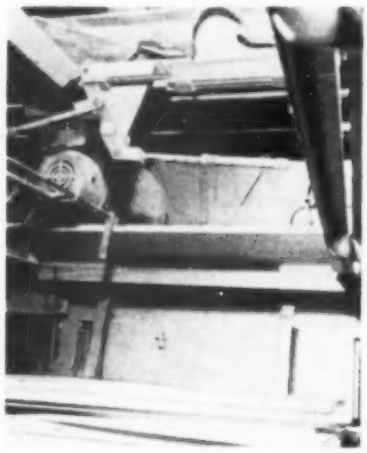
(Comments, and inquiries regarding distribution of reprints of this message to employees and others, are invited.)

New Chipboard Unit Extrudes Quality Cores at Savings of 30%

Lane Co. develops new machine and improves on batch process in use 7 years — Unit pays for self in few months, utilizes 40 species

CHIPBOARD UNIT operates 24 hrs. a day. Operator at feed end watches indicators, keeps temperature even

STORAGE BIN where 30 to 40 species of wood waste are fed to hog



AUTOMATIC cutoff saw cuts extruding panels to desired length

USING ITS OWN PATENTED "LANEWOOD" EXTRUSION PROCESS, the Lane Co., Inc., is now producing a quarter million feet of chipboard per month for use as core stock in its quality line of cedar chests and tables. The new method has largely displaced the firm's original multi-platen hot plate press batch process pioneered and used at the Altavista, Va., plant for the past seven years.

The extrusion machine, made at a cost of $75,000, went into production last February and has already paid for itself several times over with total savings in comparison to similar quantities of conventional core stock amounting to more than $250,000.

R. D. Bibby, Lane's general manager, told WOOD & WOOD PRODUCTS: "We are especially proud of the quality of our new board. We use it in the most critical part of our chests—the top—and also for table tops. We find it a highly satisfactory core for plywood. It is relatively free of warping and dimension changes under varying atmospheric conditions, and cores made from this board cost not over half as much as our cores formerly cost."

Comparing the new board to that made by the firm's original multi-platen process, now used only for short runs of special thicknesses, Mr. Bibby said: "The new machine makes a better board at a cost ranging from a fourth to a third less. It produces a 50 in. wide board up to 2 in. thick and of any desired length. The board made by the old process is inclined to vary in density and to have pockets. There is also a tendency for fines (wood particles) to fall to the bottom of this board made by the multi-platen process, contributing to instability."

The Lane organization has been working for about 30 years on various processes for converting its smaller particles of waste lumber into a practical board, much of the development work having been spurred by a leading commercial chemist. Now the newly perfected machine is capable of utilizing any and all the 30 to 40 different species of wood the plant uses in its normal operations. So complete is the machine's capacity to use wood waste that the Lane plant must now haul in wood or coal to fire its boilers.

A thin hammer-type hog is used to prepare the chips. Control of chip size and removal of dust are most important to prevent separation of fines and voids in the extruded board. Less than 10% resin is used—urea resin being designated for normal purpose board and a phenolic resin for some special purposes.

One man does all the mixing of resin and chips, and another runs the press which is kept in production 24 hours a day. Temperature is kept even in the extrusion machine, and indicators spaced every few feet along the machine warn the operator of any deviation.

A constant quality control check is employed, with density, strength, bending and other testing devices

ARTICLE 2 IN SERIES ON CHIPBOARD UNITS

The utilization of wood waste in the manufacture of chipboard for use as a furniture core stock and many other applications is attracting widespread interest throughout the wood using industry.

WOOD & WOOD PRODUCTS herewith publishes the second in a series of articles on chipcore extrusion units as they are being operated in different parts of the nation. The first article appeared in the October issue (Page 28). Others will follow.

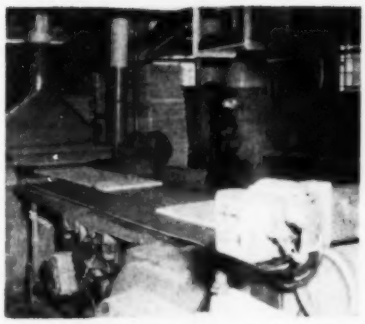
While the resulting product in each operation is essentially similar and intended for like uses, there are distinct differences in machinery and equipment used and in method of manufacture.

Successes to date in the use of this material augur well for the future of chipboard. Its manufacture from wood waste, long a burden to the industry, promises to relieve somewhat the demands on lumber for core stock and to channel greater quantities of lumber into other more valuable uses. —*The Editors.*

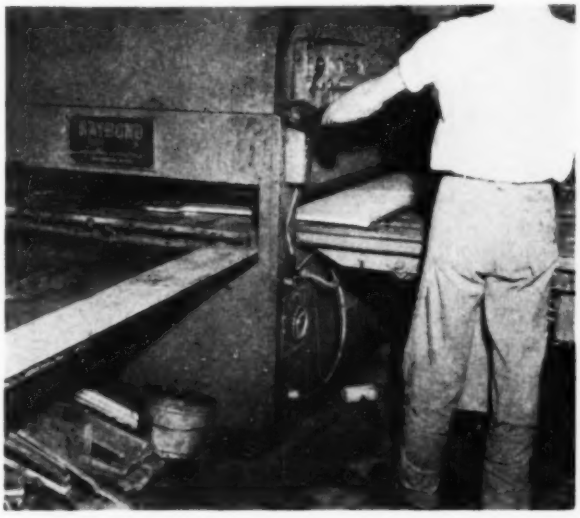
located adjacent to the machine. This is plotted on a chart at frequent intervals at all hours of the day and night. Density of the board ranges from .62 to .65.

As the board emerges from the machine it is automatically cut to desired length by a cutoff saw activated when the board hits a limit switch. The pulsating extrusion of the board is also taken into account by having the cutoff saw travel on a shaft synchronized to make the same movement and thus permit cutting the panels on a straight and true line.

For furniture uses not requiring a high finish, the new board can be veneered directly from the press. Where high finish is desired, the Lane plant uses a high-speed double surfacing planer, feeding the board through the machine at the rate of 40 to 60 feet a minute.



HIGH SPEED double surfacing planers, connected by belt (left), prepare chipboard for critical uses. Right, operator at offbearing end of planer



Within the past three years, the Lane Co. has used more than 10 million feet of chipcore in its products. Most of this board was made by the older multi-platen process, and only two complaints have been traced to defects in the chipcore. The new extrusion process is expected to do away with the likelihood of even this minute percentage of imperfection.

Commenting upon the volume of wood waste needed to operate the new extrusion machine economically, Mr. Bibby stated that it takes 2,500 to 2,600 lb. of waste to produce 1,000 ft. of finished board. "For capacity production this would amount to 12 to 15 tons daily," continued Mr. Bibby, "but any plant which can consume 60% of this capacity—eight tons a day—would find this equipment worth while and could justify the expense."

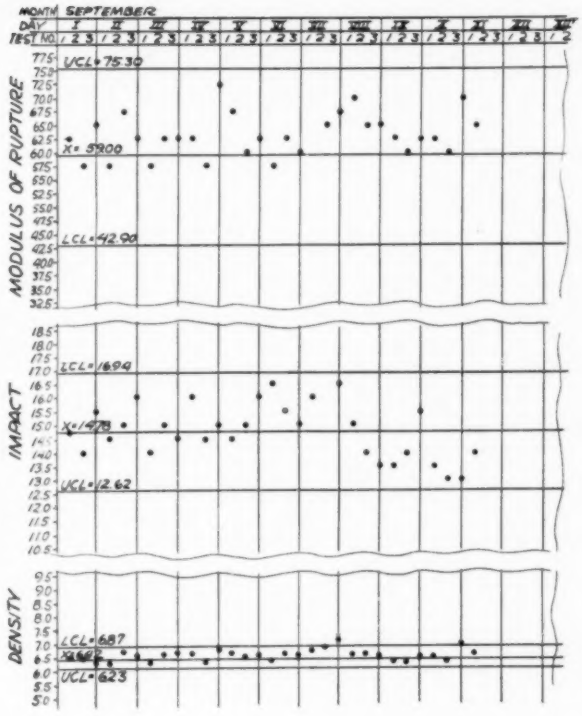
Lane's engineering staff looks upon

Continued on Page 61

ABOVE (Left) — Edge gluing narrow boards to chipcore panels

ABOVE (Right)— Quality of extruded chipboard is tested at regular intervals

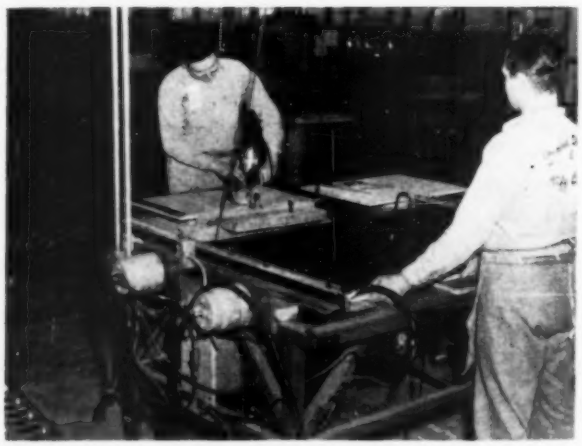
RIGHT — Chart plots results of tests showing modulus of rupture, impact and density



TWO MAN CREW cutting table top stock with cutoff saws on special table and jig designed by plant engineer

GLUING OPERATION preparatory to laminating plastic laminate to plywood core stock

PROTECTIVE PAPER SHEETS are applied to plastic laminates as they are prepared for fabrication



EDGE GLUING UNIT utilizes induction heating for fast setting. Company president designed this unit

Time-Saving Tools Speed Output of Plywood-Plastic Table Tops

Conveyors, assembly line methods employed to obtain top production at Product Design —Quality rigidly controlled

INGENIOUS PRODUCTION TECHNIQUES, including a high degree of conveyorization, modern cutting tools and time-saving machinery, help Product Design & Mfg. Corp. meet today's competition in the plastic-faced table top market. The company's table tops feature balanced plywood core construction, advanced gluing techniques and lock corner joints, particularly styled for the dinette industry.

Basic principle behind the technique which Ben Bunin, president of the East Paterson, N. J., plant, has worked out to facilitate production is a continuous assembly line, with raw materials on one side of the plant processed along in serpentine fashion on a steel roller conveyor which can hook like railroad tracks into any section of the various production stages.

The problem of finding skilled workers for specialized jobs, common throughout the industry, has been met by having each of the 65 employees concentrate on a single task at a time. This simplifies operations and cuts down production expenses.

Because fabrication is broken down into a series of individual operations in which each man is responsible only for his specialized task, technical training has been greatly simplified. Instruction is comparatively easy and unskilled men are quickly able to understand what is required of them.

A further advantage of the continuous conveyorized production system is that with each operation rationalized it is possible to maintain complete flexibility in terms of long runs and short runs on production. High volume output is further stepped up by modification to standard model machines to meet the plant's specifications and special requirements. Thus equipment downtime has been held to a minimum. Simultaneously, the scientific approach and technical ingenuity always keeps pace with the new designs, and workmanship is constantly improved upon.

An ingenious labor-saving tool is the automatic groover which insures moulding grooves that are in exact parallel to the table top. There is also a spindle boring machine which can easily be adapted for 30 and 36 in. widths by interchanging the spindles. Semi-automatic in operation, this unit reflects some of the technical ingenuity in evidence at the plant. Machines are all semi-automatic, with cutting tools equipped with carbide tips for longer life and precision performance.

A continuous belt sander is used to trim the moulding flush with the end of the table top. To eliminate scratch-

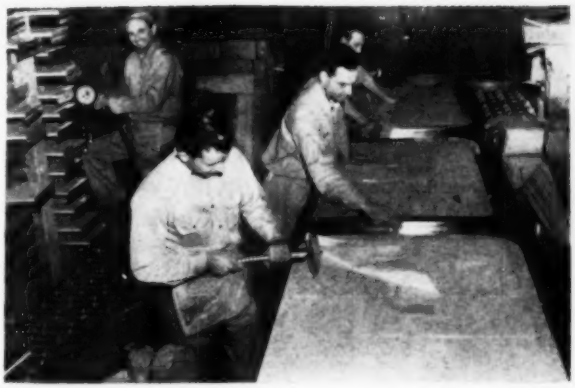
ing or marring during production, a special protective paper is used as a durable cover over the decorative plastic laminate.

The high speed cold press plastic lamination is effected by glue spreading a light uniform film of a fast-setting, ready-for-use resin to both sides of the birch plywood cores as fast as the off-bearer can handle them. In laminating before pressing, the plastic sheet is placed on top of the glued core by hand after it has been laid on the backing sheet of hardboard.

Under this straight-line operation, the tables are ready to be cut at the end of the short convevor line. Machining strengths are obtained in as low as one hour, and finished goods can be shipped in less than two hours.

Working facilities are further aided by the modern factory building of concrete and steel construction. Conveyor systems which line large portions of the floor area have been skillfully designed in the plant layout to accomplish efficient handling of raw materials, all of which are brought within easy reach of the workmen.

There is plenty of natural illumination from the large window areas to supplement the artificial lighting system. A much appreciated workers' convenience is the system of recorded music piped all over the plant, helping to create an easy-to-work-in atmosphere.



LEFT — Inspection line. Man in foreground is using rotary polishing wheel. At left, edging is brought to high polish

BELOW — Designers and stylists prepare new table top designs months before furniture market

"We are constantly carrying out a policy of product research with continual emphasis on styling and design," said Mr. Bunin. "And in order to keep on creating still better table tops, it was necessary to work out our own satisfactory system of rigidly controlled high volume production. This has resulted in constant product improvement, the consequence of an elaborate system of testing and quality control."

Product Design's dinette table tops are sold to furniture manufacturers who do the assembling job, fabricating their own table legs and setting up accompanying chairs which in turn are passed on to retailers.

TV Provides New Tool for Management

A NEW TOOL, closed circuit television, now offers busy executives in the wood industry a way to keep close control on operations in the far reaches of their plant, sawmill or remote logging areas – without ever leaving their desks. A fixed camera trained on the operation in question can relay a view of that activity into the office and onto a TV screen at the flip of a switch.

Chester B. Stem, Inc., manufacturer of quality veneers and lumber, recently was among the first to place such an installation in service at its New Albany, Ind., plant. The camera, no larger than a shoe box, is trained on cutting operations in the sawmill – with a direct cable leading some 500 feet to a 24 in. screen placed near the desk of R. K. (Dick) Stem, company executive.

The TV eye enables Mr. Stem to keep up with a heavy volume of paper work and at the same time keep a close watch on the logs being processed. It is highly important for Mr. Stem to know whether the quality of logs is high enough to require only moderate sawing into lumber, thus permitting a high percentage of veneer from each log. If the bandsaw is too busy it's a signal to investigate the quality of logs. Further, a great many species are processed during the course of a day's operations, and it is helpful to know just what is going on at any given time.

TV SCREEN relays view of sawmill operations some 500 feet to front office at Chester B. Stem plant, provides constant check on quality of logs

Mr. Stem reports that the closed TV circuit, in operation at his plant only since late September, has already resulted in two basic improvements in sawmill operation – one on grade and the other on speed of production. Both changes were conceived to enable Mr. Stem to spend an increased amount of time in watching cutting operations without neglecting the work at his desk.

OPERATOR of this mill converted carriage "dogs" to air operation and was able to reduce the number of men necessary for operation, thus increasing productivity

RIGHT — Sawyer at left handles dogging, setting, turning and the deck by means of push buttons. Substitution of machines for men has upped productivity

How to Guard Mill Profits by Increasing Productivity

Can machine or automatic device up output in your mill? Only man who makes decisions on appearance is essential

By MILTON H. MATER*

"Productivity" until recently has been a word with no great significance for the sawmill manager. Cheap stumpage, brisk market demand for lumber and a decent profit margin dwarfed the importance of how many board feet of lumber each man in the mill produced per shift.

However, in recent years the scarcity of stumpage has driven stumpage costs high, wages and fringe benefits have shot up, and increasing competition from other construction materials has held prices down. The sum total has been a touchy profit margin where every additional cent of cost made a noticeable dent in the profit picture. Productivity, therefore, has become a word as important to the lumberman as to the auto manufacturer.

Productivity is defined, for sawmills, as the production in board feet per man per shift. In determining what a mill's productivity should be, there are many factors which must be taken into account. A high production of low grade lumber from high grade logs, for instance, may defeat the basic purpose of increasing productivity — which is, making the mill operation a stable, profitable one. There is a break-even point in balancing grade against production which must be determined by management for its own mill and log conditions.

The aim of increasing productivity is, by definition, the increase of output per man engaged in production in the sawmill. On the West Coast, productivity has taken its highest form in the stud mills. The stud mill is almost a post war phenomenon. Though there were some in operation before World War II, it was not until the Army engineers recognized that most 2x4's 16 ft. long were cut in half by carpenters on the job using modern construction methods.

The stud mill has become a very high production sawmill, getting as much as 4000 bd. ft. per day per man — sawed, planed, and loaded into cars. This figure of manpower includes even the non-productive office help, though it does not include logging.

However, the stud mill is not a good indicator of the lumber industry as a whole. Although it has been a bellwether in introducing many new concepts in lumber production adaptable to longer log mills, the objective of the stud mill is, as one well-known stud manufacturer expressed it, "not to produce 'lumber,' but to make so many pieces of 2x4x8's a day." It, therefore, becomes more truly a mass production enterprise than the average long log mill where grade plays such an important part.

The greatest stride in advancement of sawmill production techniques — and increasing productivity in sawmills — came in the post war years with the acceptance by the lumber industry of the truism that "machines can do it better."

Of course, in the field, one still comes across many sawmill operators who argue that even the best log turning equipment can't beat a couple of good men on peavys. Similar arguments have been presented by managers of even the largest mills in the past. However, the inflationary pressures of the last eight years and the improvement and greater flexibility of available mechanisms have largely changed this attitude.

Increasing productivity in the smaller mills before the development of air and hydraulic mechanisms was a most difficult task. Smaller mills without steam could not get turning and automatic equipment because it was not available for air and hydraulic mechanisms. The cost of steam plants after World War II was prohibitive. A steam plant large enough to run a

*Professional Mechanical Engineer, Mater Engineering, Corvallis, Ore.

mill of 30,000 to 40,000 bd. ft. per day capacity might cost $20,000 to install.

One must realize that the complete sawmill for this production built for electric power costs 60-80 thousand; adding the extra capital investment for a steam plant becomes prohibitive. On the operating side of the picture the steam plant usually required a minimum of two highly paid men – the steam engineer and the fireman. Air and hydraulics have, however, solved the mechanization problem for the smaller mill.

By and large, the purely mechanical reasons for limping along with low productivity in a mill no longer exist. Mechanisms are available for doing so many of the jobs which formerly could be done only by muscle power that today increasing productivity is largely a matter of management attitude.

Increasing mill productivity is a management function. By making your own "efficiency survey" of your mill you can determine how you can increase productivity. Because of the lack of uniformity of our raw material and the lack of standardization of our log scales, it is almost impossible to design a sawmill efficiency survey which can be used universally. But the following approach has been used with good results by the author in his mill consulting work.

When you go through your mill to make your efficiency, or productivity, survey pick out the points where *men are essential.* The key to your selection is to define *essential* as: the point at which a man makes a decision based on the physical *appearance* of the log or board. (His decision may be based on grading requirements where appearance, end use, and other factors are combined; or merely on the days' sawing requirements.)

It is important to note that the words "physical dimensions" are not used. Machines can be made which will take care of sorting by dimension, but have not yet been made for sorting by appearance.

When you look over your mill in this manner you are in the position of the husband and wife going over the family budget. At first glance every expenditure seems essential. But careful thought sifts the really essential from the luxury essentials. Let us take some concrete examples:

1. Pond or Log Storage Yard: How essential are your pond men? Do they all cut your logs to length on the basis of getting the most out of each log, the decision based on the appearance of each log? Then they are essential.

But if your logs are cut to length in the woods and your pond men merely push them around until they go up your log haul, then it is time to study your pond operation carefully. If your log dump was moved closer to the log slip, would one man be able to handle the dumping and loading? Can an electric motor dump be installed so that the truck driver can dump his own logs?

Dry storage presents the same opportunities for savings. Two mills of the same size cutting the same type of log will have wide disparity in log handling costs. In one comparison made, one mill had six men in the yard and another two. This difference was caused because the second mill had a huge swinging boom crane that covered his log dump, storage, and mill log deck.

2. Sawmill Log Deck: Are you sawing to length on your deck? If not, your deck men are making no decisions based on the *appearance* of the log. Machinery can haul up the log better, deliver it to the carriage, and turn it for grade, more efficiently than men can – as witness the ever increasing number of sawmills with no one on the deck at all.

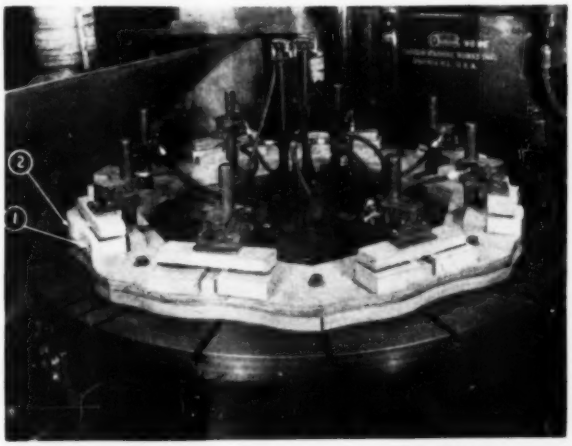
3. Sawmill Carriage: In practically all cases the sawyer is making

Continued on Page 60

Modern Machines and Methods Up Clock Case Output

RECORD PRODUCTION of hard maple clock cases is being attained at Churchill Cabinet Co., Chicago, by means of high speed machinery and plant ingenuity. Harold Wishnew, plant foreman, supplied the "know-how" by designing and building a pattern for producing the cases on an automatic shaper. The high speed shaper cuts eight complete blanks per minute using eight stations on the shaper, each blank consisting of a concave and a convex surface.

The maple clock cases are then taken from the shaper and stacked on an inclined slide where they travel to two routers. The routers are set up to bore a 3¼ in. diameter hole into the face of the clock case and a hole of slightly less diameter in the back of the case. The two different size holes leave a ledge in the case on which the operating mechanism of the clock rests.

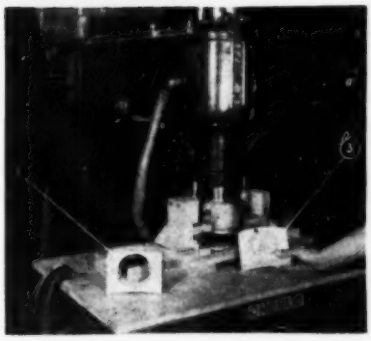


(Photos courtesy Onsrud Machine Works)

LEFT — Shaper cuts eight clock case blanks per minute. Each blank consists of concave surface (No. 1) and convex surface (No. 2)

Production rate on the two routers for these boring operations is 20 per minute. A small but efficient dust collecting system coming in directly behind the router guard assures accurate cuts, with no chance for the router fixture to get clogged.

This combination of high speed machinery and plant "know-how" produces a smooth flow of quality wood products from the 50-year-old Churchill Cabinet Co.



BELOW — One router bores 3½ in. hole in face of clock case (No. 3), the other bores hole slightly smaller (No. 4) to provide ledge on which to rest operating mechanism

Stanford Study Points Up Coming Changes in Wood's Industrial Markets

Researchers foresee healthy gains in use of wood for furniture and fixtures, for shipping containers, for trucks and trailers—Less lumber will be used for railroad cars, other manufactured goods

How do the industrial markets for wood shape up, at least for the next 20 years? Shipping containers? Furniture, cabinets and fixtures? Other manufactured products?

Last month, in the second of this series of interpretative reports based on a study of the outlook for forest products made by Stanford Research Institute for Weyerhaeuser Timber Co., Wood & Wood Products covered in detail the prospects for lumber as well as for plywood and hardboard in the construction market.

Previously, in the October issue it had been reported that, thanks to the expected expansion of the U. S. economy and despite continuing stiff competition from other materials, wood boxes and crates would experience a market growth of 25% over the next 20 years. It was shown, too, that plywood and veneer containers would enjoy an 88% rise in the same period. Furniture, cabinet and fixture output was indicated as almost doubling its present size by 1975.

Changes in Industrial Markets

Table M has no exact counterpart in the original Stanford study. It has been compiled from several tabulations in the original report to give Wood & Wood Products readers a picture of the outlook for wood in all industrial markets. Showing an overall gain of nearly 22% in industrial lumber consumption through 1975, it points to some changes which will be regarded with mixed feelings.

It shows healthy gains in the use of wood for furniture and fixtures (74%), for shipping containers (21%), and for trucks and trailers (43%). But railroad cars and other manufactured products are expected to use substantially less lumber – 20% less for the former and 29% less for the latter.

Shipping containers, including pallets and dunnage, accounted for 56% of all industrial lumber in 1950 and no change is looked for in that ratio over the next 20 years. However, furniture and fixtures, which took 21% of all industrial lumber in 1950, will consume 30% of the supply in 1975.

Interesting sidelight is the indication that 20 years from now trucks and trailers will consume almost twice as much lumber as will railroad cars, assuming no change in the trends on which the Stanford study was based. An alarming aspect of this tabulation is the indicated drop in the amount of industrial lumber for "other manufactured products," which in 1950 accounted for 20% of the consumption and will use only 12% by 1975.

Wood in Shipping

Table N shows that while shipping will consume only 15% more wood in 1975 as compared to 1953, the wood requirements of box and crate manufacturers will be 23% heavier. Pallets will take more than twice as much wood as they consumed last year. Continuing improvements in materials handling methods will cut down the dunnage total and thereby help to conserve wood for other uses.

Increased competition from paperboard containers has eaten into the market for wood boxes and crates during the past several decades (see Table D, October issue) and will continue to take business away from wood. The researchers ascribe this trend largely to the cost, weight, related increase in packaging time, and problems connected with opening, handling and disposition of wood containers, which are viewed as outweighing the advantages in strength, appearance and re-use possibilities.

The outlook for pallets is one of the brightest spots in the wood container picture. Here, wood is generally preferred because of its high strength-to-weight ratio, its lower cost versus steel, its durability as compared to paperboard, and ease of repair. From minor quantities in the early 1930's to about 20 million at present, the annual production of wood pallets is expected to continue rising to a total of 37 million units by 1975.

Plywood and Veneer for Containers

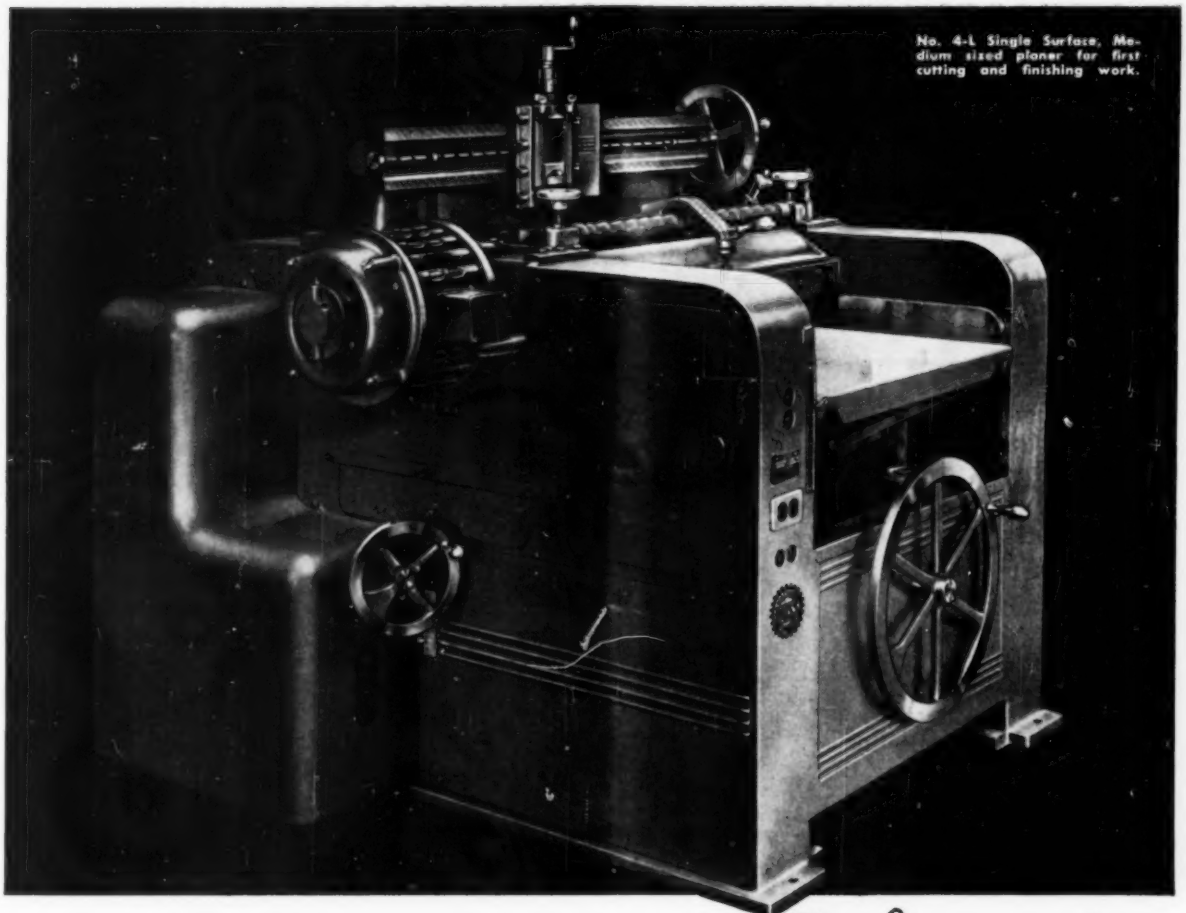
With the expectation that veneer and plywood containers will maintain their market position during the next 20 years, the researchers estimate that the use of veneer in this field will increase by 81% – from 2.6 billion sq. ft. in 1952 to about 4.7 billion by 1975.

Plywood containers account for about a fourth of the veneer consumption in the shipping field. Baskets, hampers and wirebound boxes take the remainder. Light weight with strength, which cuts shipping costs, makes veneer the preferred container material for shipping fruits and vegetables. While paperboard has made rapid inroads in the produce container market in recent years, introduction of the kraft-veneer container, offering

TABLE M

Estimated U. S. Lumber Consumption by Major Industrial End Uses = 1950-75 (M.M.B.F.)

	1950	1960	1965	1970	1975	% Change
Shipping Containers	6,035	6,580	6,830	7,170	7,330	+21 %
Furniture-Fixtures	2,221	2,943	3,256	3,565	3,864	+74 %
Railroad Cars.....	116	132	117	103	93	(–20 %
Trucks and Trailers.....	128	140	151	167	183	+43 %
Other Mfd. Products....	2,191	1,785	1,696	1,665	1,550	(–29 %)
Total	10,691	11,580	12,050	12,670	13,020	+21.8%



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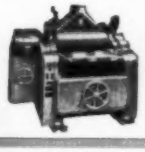
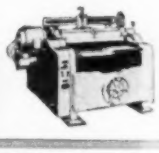
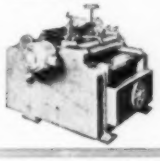


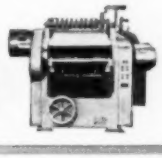
No. 66 **Single Surface,** 6 roll planer for first cutting and finishing work.



No. 88 **Double Surface,** 8 roll planer for first cutting and finishing work.



No. 55 **Heavy duty Double Surfacer** for planing rough lumber.



MICRO-SURFACER for planing hardboard and other very thin materials.

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TABLE N

U. S. Lumber Consumption in Shipping by Type of Use = 1953-75
(M.M.B.F.)

Type of Wood Use	1953	1960	1965	1970	1975	% Change
Boxes and Crating.....	4,350	4,780	5,030	5,240	5,350	+ 23 %
Dunnage	1,400	1,000	900	800	750	(– 46 %)
Pallets	600	800	900	1,130	1,230	+105 %
Total	6,350	6,580	6,830	7,170	7,330	+ 15.4%

TABLE O

Estimated Consumption of Hardboard by Type of Use = 1952-75
(M.M. Sq. Ft. — ⅛" Equivalent)

	1952	1960	1965	1970	1975	% Change
Furniture-Fixtures	325	425	530	650	780	+140%
Other Mfd. Products....	282	400	460	570	630	+123%
Construction	218	531	773	1,003	1,280	+487%
Household	175	240	270	330	360	+106%
Total	1,000	1,596	2,033	2,533	3,050	+205%

strength in the presence of moisture, is expected to meet this competition successfully.

Furniture and Other Wood Products

In the October issue Table E showed a projected growth of 96% in value of furniture and fixture output from 1952 to 1975. How much of that increase will wood share? The indicated answer, given in the same tabulation, was that while dollar volume would nearly double, lumber consumption by furniture and fixtures would go up only 74%. In other words, a drop of 11% in bd. ft. of lumber per dollar of output is expected.

This implies that wood will fare much better in the furniture field than in construction, where an overall increase of 60% is expected to be accompanied by a rise of less than 6% in lumber use. The researchers point out that metals, plastics and fabrics have made substantial inroads in kitchen, porch and garden furniture because of their weather resistance and ease of cleaning. Continuing, they say:

"A feeling in commercial circles that wood furniture lacks a modern appearance and is less durable than metals, with resulting higher long-term costs, has caused a decline in demand for wood commercial and public building furniture."

In the professional furniture market they find that non-wood materials have displaced wood because of their "more sanitary appearance and greater durability."

"Major effects of such competition, however," they hasten to point out, "may already have been felt." They add that in the coming 20 years the decline in use of lumber per dollar of furniture output is expected to be at a considerable less rapid rate than in the past.

Railroad Cars

Based on expected inventory levels and replacement needs, estimated production in 1975 of the various types of railroad cars important to lumber consumption is as follows:

Gondola and hopper	27,300
Box and automobile	24,800
Reefers	2,710
Flat cars	1,380
Caboose cars.....	225
Stock cars	150

The use of lumber in rail cars is likely to continue downward. By 1975, lumber in gondola and hopper cars is expected to decline from the present 1,610 bd. ft. per car to about 1,300; in box car and automobile cars from 3,100 to 1,650; in reefers from 5,500 to about 5,300; in flat cars from 1,863 to 1,200; in cabooses from 2,200 to 2,100, and in stock cars from 3,290 to about 2,200. Most of this loss will probably go to steel, say the researchers.

Trucks and Trailers

Truck production is expected to increase from 1,212,000 units in 1952 to 2,100,000 in 1975. Production of trailers, excluding tank and house trailers, is estimated to grow from 53,000 in 1952 to 85,000 by 1975. Lumber use per vehicle will probably remain about at present levels, with a slight decline in sight by 1975 as competing materials encroach on the body and framing uses particularly.

Other Manufactured Products

The bulk of the remaining industrial lumber is consumed in the manufacture of house trailers, venetian blinds, agricultural implements, handles, ladders, tanks, pencils, caskets, patterns, musical instruments, athletic goods, toys and miscellaneous wood items. No attempt was made in the Stanford study to project future lumber consumption by these wood products.

However, danger signs for manufacturers of such products who have a stake in the future of wood's markets, as well as for their lumber suppliers, are found in Table M, which points to a decline of 29% in their consumption of lumber over the next two decades.

Plywood and Veneer for Manufactured Products

Plywood and veneer are used for wide surfaces of furniture or fixtures, with plywood often providing working surface for the application of the fancy facing veneers. Plywood and veneer are used in such products as radio and television cabinets, desks, dressers (fronts, sides and tops), chairs and tables. Availability in large panels has aided their growth in the fixtures field, where they are used for counters, cabinets and showcases.

In the furniture segment, about four times as much hardwood veneer is used as softwood, and in the fixtures segment about twice as much softwood veneer as hardwood.

Based on the outlook for furniture and fixture production, it is estimated that by 1975 about 2.25 billion sq. ft. of plywood can be consumed in furniture and fixture manufacture.

Plywood and veneer are used in numerous other products, including trailers, motor vehicles, luggage, boats, musical instruments, electrical equipment, aircraft, sporting goods and toys. Plywood consumption in this group is expected to reach 750 million sq. ft. by 1975.

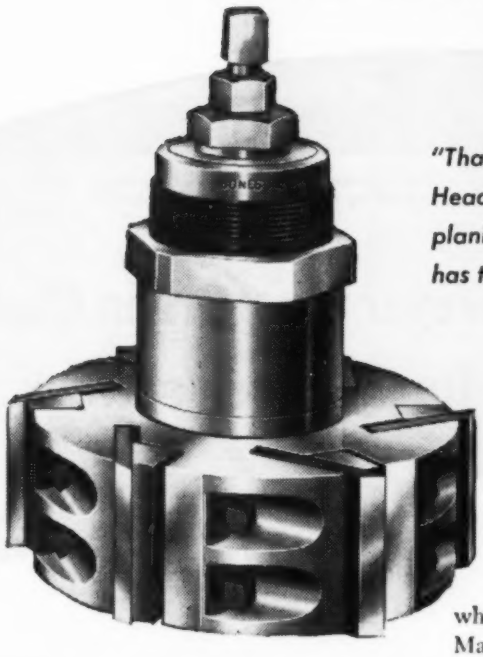
For all uses, total veneer production is expected to increase from about 19.3 billion sq. ft. in 1951 to about 34.5 billion by 1975. Production of softwood plywood in that year is expected to total about 7.2 billion sq. ft. (⅜ in. equivalent), and production of hardwood plywood about 2 billion sq. ft.

Hardboard for Industrial Uses

Table O shows the available informatio on hardboard's industrial uses with projections indicating an expan-

Continued on Page 61

"We put 'em on and forget 'em!"



"That's the way it is with our Jones & Orth Cutter Heads! We've got forty or fifty of them in our planing mill, and the foreman tells me all he ever has to do to them is sharpen 'em once in a while. No wonder it's easy to forget we've got 'em! I sure wish everything around this plant ran as smoothly as those cutter heads of yours do!"

Quotes like these are yours for the asking wherever JONES & ORTH Cutter Heads are on the job. Maybe that's why many of the country's largest and most progressive plants use *our cutter heads exclusively*, despite the fact that they are *NOT* original equipment on most wood-working machinery.

When you need speed . . we don't "just stand there"! You get "same day shipment" of *many* orders, with a large percentage shipped in 24 hours, thanks to our *very* large stock of cutter head components. Your order gets "*main line expediting*" here!

Nothing's on our minds but cutter heads . . . just so YOU can *forget* about 'em, once you get started using OURS. Why put off a good thing? *Write us TODAY . . . start* unloading your cutter head grief on *US!*

Need Special Heads?

Tough cutter head problems are *meat* for the engineering brains of our staff. Try us on just ONE and make us *prove* all this!

Illustration shows a special design picket head . . . for use on a double tenoner.

Write today for the name of our dealer nearest you! Address either our Seattle or Memphis branch.

Catalog? You bet! Let us send you your copy! How else can we serve?

JONES & ORTH

CUTTER HEAD COMPANY

385 SOUTH MAIN STREET
MEMPHIS 3, TENN.

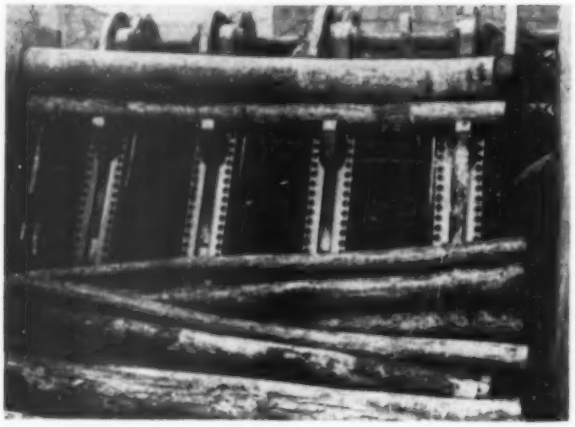
BOX 3064
SEATTLE 14, WASH.

LEFT—Lumber falls off green chain onto belt conveyor which transports it 400 feet around curve. RIGHT—At end of conveyor lumber drops onto chain leading to mechanical kiln stacker

LIVE ROLLS take place of belt to move lumber around curve

400 ft. Conveyor from Green Chain to Stacker Does 7 Men's Work

Camp Mfg. Co. finds new uses for air, mechanical devices—Frees men from back breaking tasks for more useful work—Increases output, reduces costs



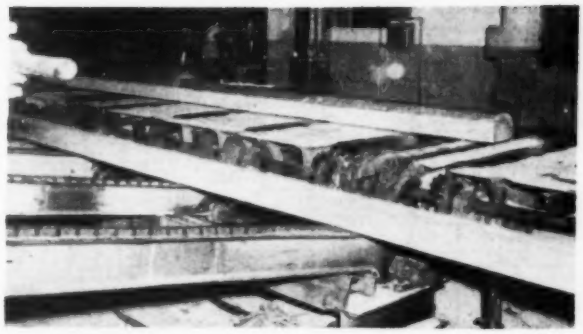
LOGS TUMBLE back down incline until debarked. When bark is off, operator allows them to continue to mill

CARRIAGE at bandsaw has been converted to air for operation of dogs

A 400-FT. ELEVATED CONVEYOR, connecting the green chain with the stacker piling lumber for the dry kilns (See WOOD & WOOD PRODUCTS, April, 1953), is the most recent and revolutionary cost and labor saving development in Camp Mfg. Co.'s Lumber Division operations at Franklin, Va. Placed in operation in late June, the conveyor performs a lumber transporting chore which formerly required back-breaking labor of seven men and full-time operation of a straddle carrier. The conveyor does the same job unattended, freeing the seven men and carrier for more productive tasks elsewhere around the plant.

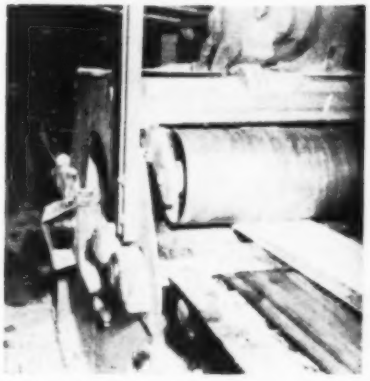
While most spectacular, this is only one of many innovations continually being put into practice at this progressive mill which carries on lumber manufacturing in close integration with its twin division making paper on the same site. Other recent contributions toward keeping production costs in line have resulted in paring four additional men from the labor force, relieving at least two others of over-strenuous tasks, and speeding up the lumber output.

This ever-growing list of contributions toward greater production and



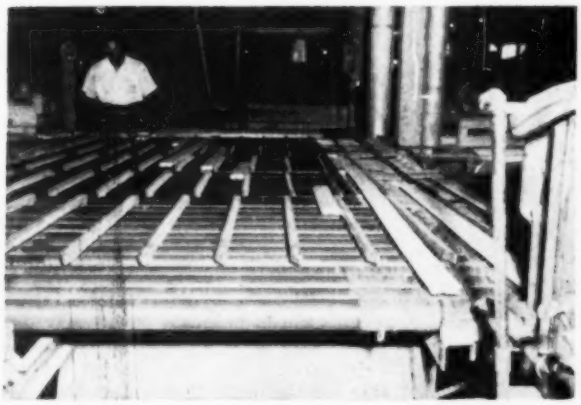
SLAB TRIPPER uses foot controlled air valves to kick lumber onto chain conveyor leading to vertical resaw

OPERATOR flicks button to send boards to right toward edger, to left for return to resaw, or straight to trimmer



OPERATOR positions edger by shaft connected remote control

CHIPS from sawmill edgings on belt leading to paper mill



LEFT — Flooring is cross-fed from one end matcher to other by blast from air jet and lateral power rollers operating at 90 degree angle to chain feed

lower costs is a source of great personal satisfaction to W. H. (Bill) Camp, company vice-president and manager of the Lumber Division, and to Plant Superintendent John H. Scott.

"I'll match our workers against those of any other plant," says Mr. Scott, "and that includes our own Paper Division whose men average almost 50% more in take-home pay than do ours."

He points to a bonus suggestion system in which men are rewarded for their practical ideas for improving on existing methods of doing any task in the plant. He also points out that supervisory personnel participate in a profit sharing system which keeps them alert and objectively critical of production methods and results in their departments.

The new conveyor system was fabricated and assembled by Camp mechanics and maintenance men. Directly from the end of the green chain, an 18 in. belt conveyor starts the lumber on its way. Better than halfway to the stacker the conveyor, powered by two 10 h.p. motors, makes a 90-degree turn. Here a series of live rollers, operated by continuous shafting and universal joints, takes the lumber around the bend. Then the belt conveyor takes the lumber the rest of the way and deposits it on the chain which feeds the stacker.

Before entering the sawmill, all logs are debarked so that slabs, edgings and blocks resulting from processing lumber can be chipped and sent by belt conveyor to the paper mill. There is a chipper in the sawmill and another near the planing mill.

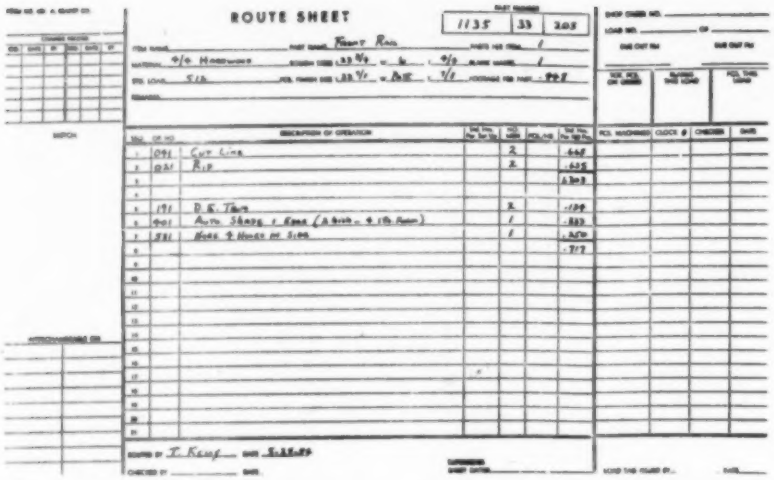
The logs are debarked by a tumbling action quite different from the method used in other mills. The operator at the controls takes logs dumped into the chamber up a steep incline by means of hydraulic arms. Near the top of the incline he depresses the arms and lets the logs tumble down against each other, loosening the bark. When logs have been debarked, he allows them to continue up the incline and onto the log deck.

First instance of increased production and labor saving in the sawmill occurs directly beyond the sawyer. Here a slab tripper operator has been provided with foot-controlled air valves. With these he can permit all outside cants or slabs to continue straight ahead toward the horizontal resaw, or he can kick stock lumber off onto a chain conveyor leading to the vertical resaw. The action is so fast that the sawyer is not required to delay his sawing or waste time turning logs on the carriage. He can send those from which slabs have been cut on four sides directly to the horizontal resaw.

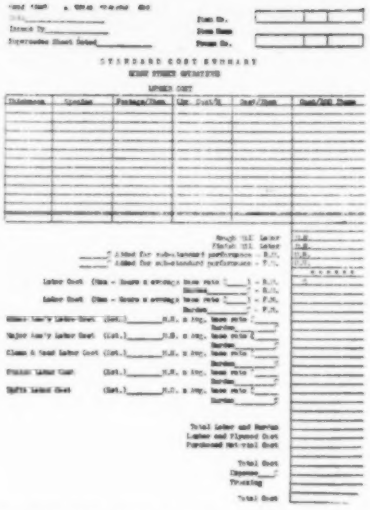
At the vertical resaw the operator sits at his controls (he used to stand) and guides cants through the saw. By use of hand-operated solenoids and air cylinders he determines which cants to send straight through to the trimmer, which to send to the right toward the edger, and which to kick off to the left for return to the resaw. The decisions he puts into effect with push-buttons used to be carried out by two men using grapple hooks, according to G. L. Hunnings, sawmill foreman.

At the edger, the operator uses a remote wheel control to position the

Continued on Page 61


ROUTE SHEET

FORM NO. 1001 furnishes sequence of operations through which part must go, plus complete cost data for part itself



FORM NO. 1037 is standard cost summary, basis for pricing product

PARTS LIST

FORM NO. 1002 furnishes parts information and quantities required, plus lumber requirements and labor cost data

A Simple System for Controlling Furniture Production Costs

Objective of good system is plant (not office) control—Flow of information must be steady, complete and fresh

By GEORGE J. McNEW

Vice-President, A. Brandt Co.
Fort Worth, Texas

THE IDEAL COST SYSTEM is a simple one which can be understood by everyone—and which can put more dollars in the till! You might devise your system on the back on an old envelope. It can be excellent—if you *make it work* Or you can have 50 systems, and none is any good unless you make it work.

Let's have simplicity personified – the old fashioned "grocery store method." The most valuable system is the simplest one which can be clearly understood and used by *all* people. The manager must see results on *one* sheet of paper—not by searching thru a volume of monthly reports from accounting, frequently so involved that not even an expert accountant can decipher and often so "stale" that it's too late to use effectively.

If a system is worth while at all, let's make it comprehensive enough to serve many functions most effectively and most economically. A good standard cost system *can* and *must* permit appropriate meshing of all phases of the business.

For effective control of operations and for cost reduction purposes, our system must provide information which is *alive!* – and *fresh!* The current cost picture must be placed in the hands of management men on the *day* when they can do something about remedying the problems. While we abhor cumbersome details, we must have information which is specific enough to lead us directly to our problems—or prevent us from wasting time on situations which are under close enough control for the moment

A great compliment to a good business man is that "he is completely *objective* in whatever he sets out to do." So many failures of people—and systems—are caused by lack of follow-up or careful delegation of responsibility.

Each person, and department, must assume and properly carry out his responsibilities if a cost system is to pay dividends. We must *"Think – Decide – Act"* – in pinning down individual responsibilities connected with the cost system – as well as in everything else we do which may be of any importance.

Too often our programs are set up for "the tail to wag the dog"! Don't you feel sorry for accounting departments which are charged with the task of providing cost information to

Continued on Page 85

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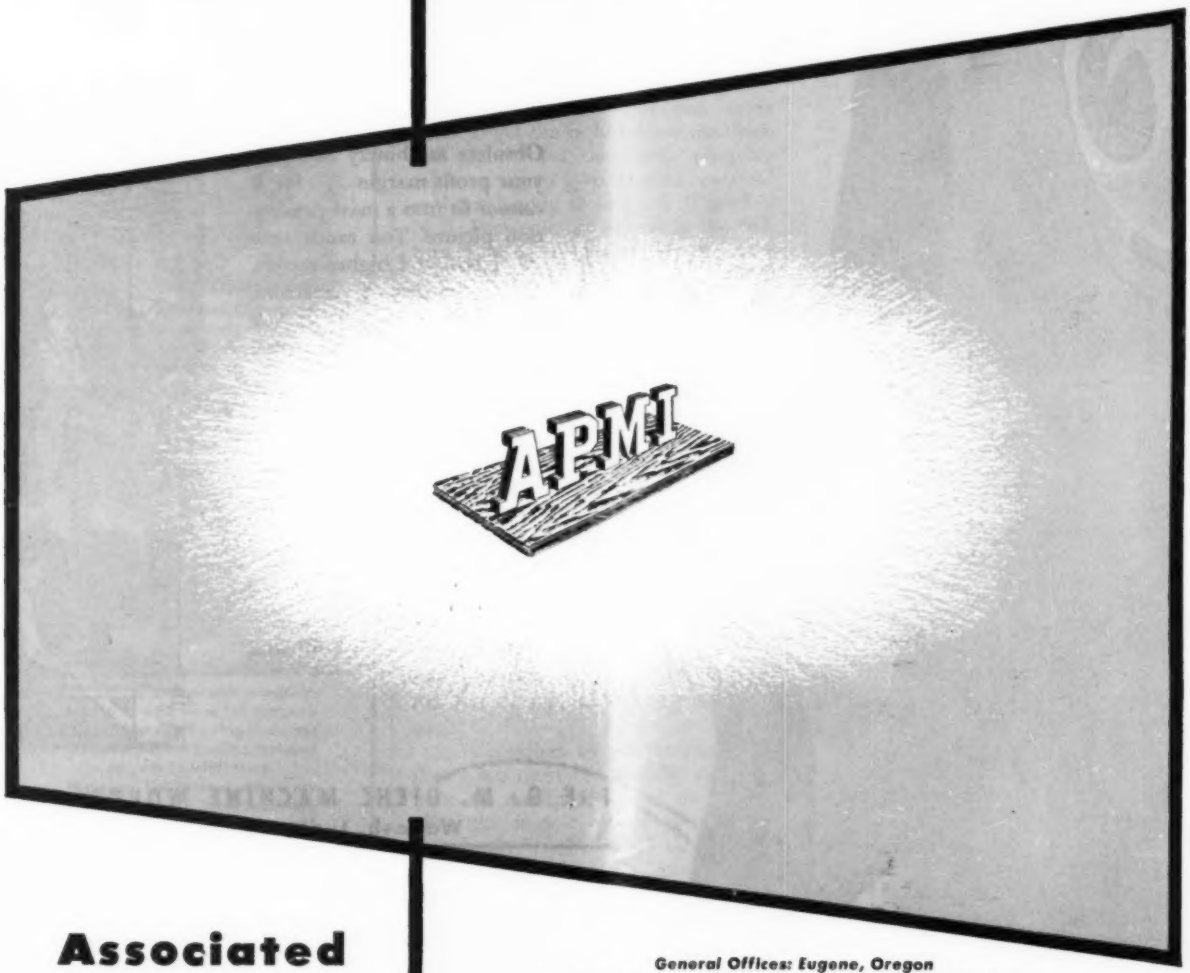

Associated Plywood Mills, Inc.

General Offices: Eugene, Oregon

Plywood plants at Eugene and Willamina • Lumber mill at Roseburg

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SALES OFFICES: 31 State St., Boston, Massachusetts; 595 E. Colorado St., Pasadena, California.

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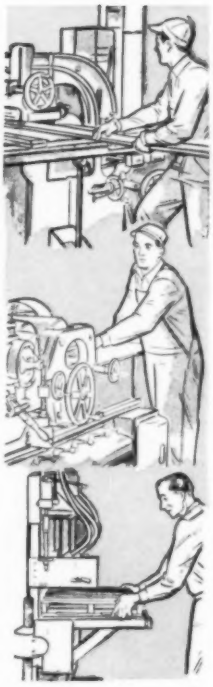
but where will it get you?

Obsolete machinery *eats* into your profit margin . . . for it *cannot* fit into a mass-production picture. Too much time and labor, and higher rejects, are the burden of a machine that needs retiring. *Why lose profits?* Delaying replacement of an obsolete machine may be *robbing* you of them.

Modern Diehl Woodworking Machines produce more units at less cost. Why not invite your exclusive Diehl Woodworking Representative into your plant . . . and let him *prove* to you that modern Diehl machinery is an *investment in profits* . . . NOW, *and for the future!*



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Diehl

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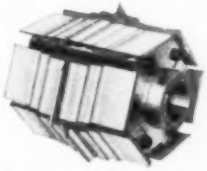

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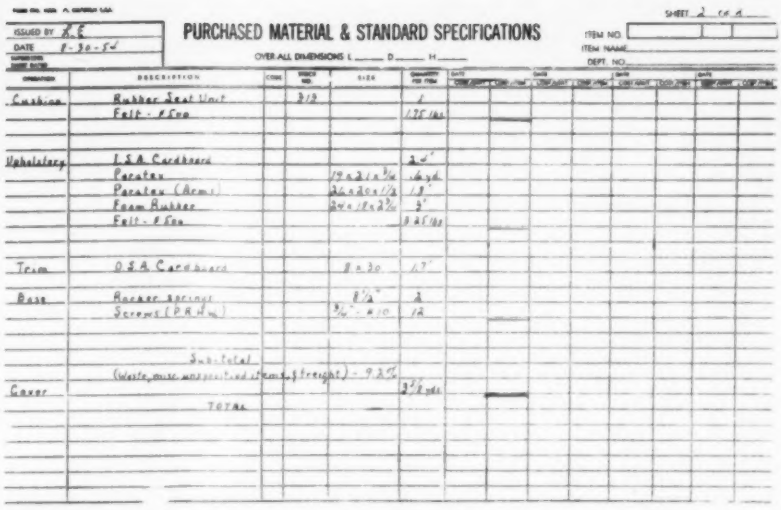
DIEHL CUTTER DIVISION

The G. M. Diehl Machine Works, Inc.

Wabash, Indiana



PURCHASED MATERIAL & STANDARD SPECIFICATIONS

	DESCRIPTION	SIZE	QUANTITY PER ITEM
Cushion	Rubber Seat Unit	3/2	1
	Felt - #Req		1.25 lbs
Upholstery	I.S.A. Cardboard		2.0'
	Paratex	19 x 21 x 3/16	1.6 yd.
	Paratex (Arms)	26 x 20 x 1/2	1.3'
	Foam Rubber	24 x 12 x 2 1/2	2'
	Felt - #Req		0.25 lbs
Trim	D.S.A. Cardboard	8 x 30	1.7'
Base	Rocker Springs	8 1/2"	2
	Screws (P.R.H.)	3/4" - #10	12
	Sub-total		
	(Waste, misc. unspecified items & freight) - 9.2%		
Cover			3 1/2 yds.
	TOTAL		

FORM NO. 1005 describes exact standard materials to be used in a given unit by a given department, also furnishes sizes and quantities

A SIMPLE COST SYSTEM

Continued from Page 32

management when they can never seem to get the *right* information from the plant? Yet they keep plugging away trying to give us what we need without having it to give! Crazy? — No!! Problems are solved in the *factory — not* in the *office!* Of course we must have everyone's help. But you know as well as I that the office can only reflect the picture which is provided by the plant.

Labor charges must be accurately reported if we are to know true costs. Inventories (generally handled by factory people) must be well handled. Engineering and design changes are generally made in the plants — and so often only "once in a while" get to the accounting department. The point is, the *flow* of information from the factory to the office must be *steady* and *full!*

Let's run the factory from the factory and let the office really serve us—rather than expect the office to control the factory and reduce the costs for use!

It is needless to tell thinking men that a job must be carefully analyzed from all standpoints. But do we realize the importance of simply and completely "engineering" a job before it goes into production. *Minutes* spent here save *days* in the plant. Careful consideration must be given to best materials, most economical operations, machine or certain other departmental bottlenecks, etc.

Production can be realistically scheduled only when proper consideration is given to material inventories,

DAILY TIME & PRODUCTION REPORT

FORM NO. 1004 gives operator direct, indirect labor time per part

machine and man hour capacities, production cycles, etc.

The proper standard cost system must also provide the foundation for all of this. The purchasing department plays an important role in procurement. Their role is important, too, in the matter of controlling and reducing costs. We must have materials on schedule—and at the best possible prices.

It is well, too, to be always mindful that an ever-so-good cost system would be of little value to any of us unless we are first able to *schedule* and *control* production. A simple but sound progress control set-up is vital to any manufacturing business.

First, let me state that *actual cost* data in a plant without work measurement and without true standard costs might just as well be thrown away! Experience indicates that companies operating on a non-incentive, non-

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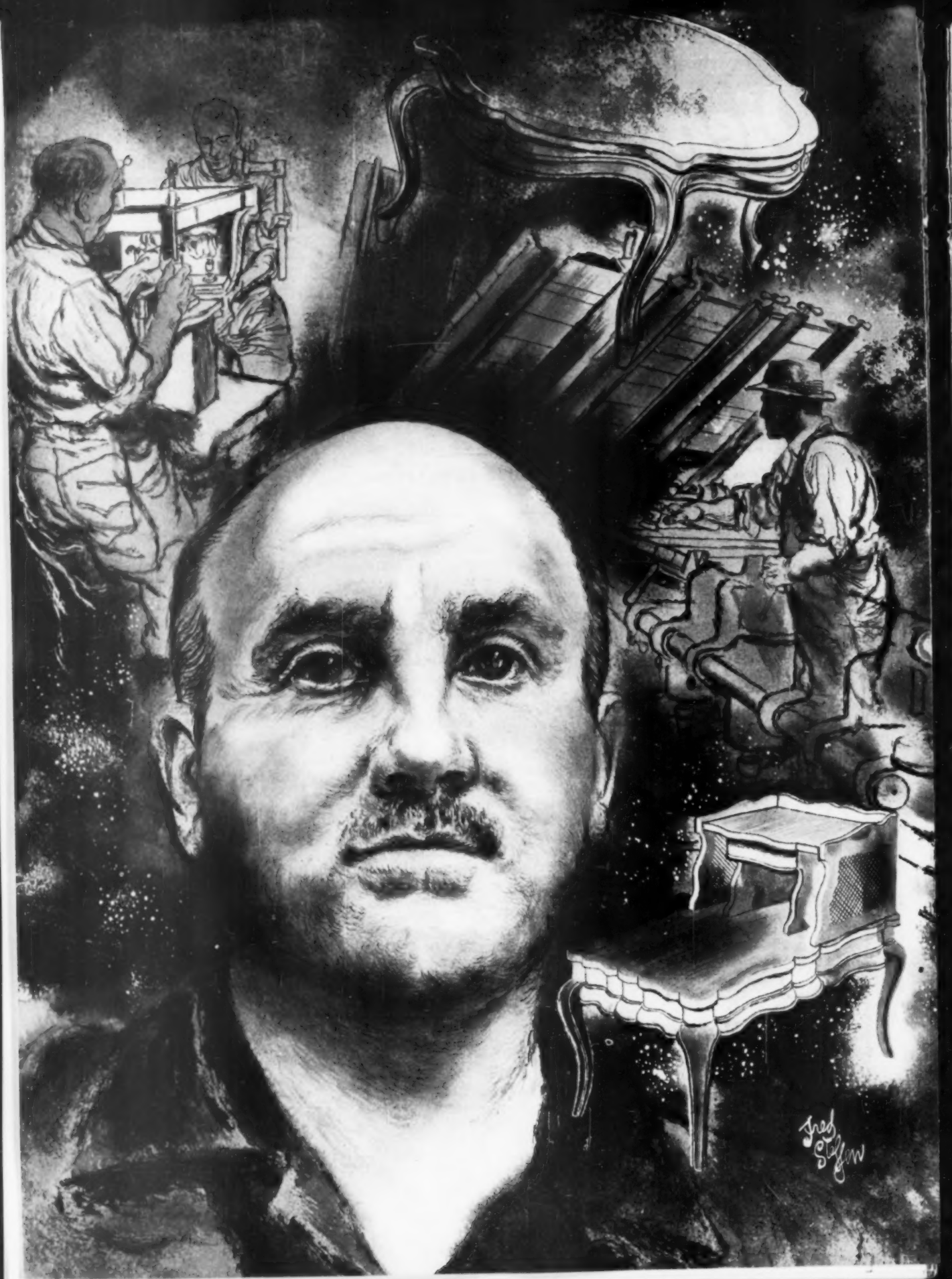
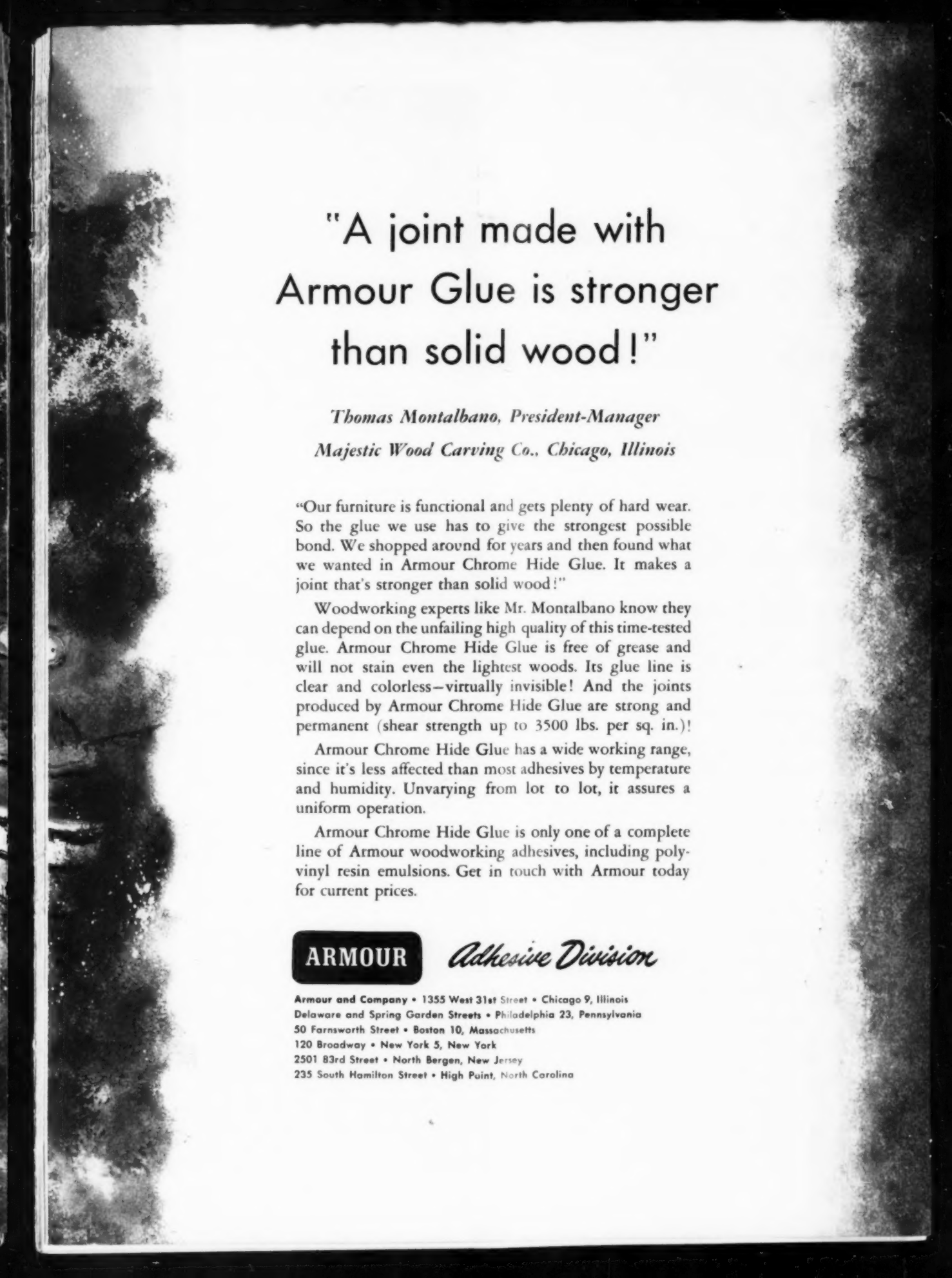

Fred Stein



"A joint made with Armour Glue is stronger than solid wood!"

Thomas Montalbano, President-Manager

Majestic Wood Carving Co., Chicago, Illinois

"Our furniture is functional and gets plenty of hard wear. So the glue we use has to give the strongest possible bond. We shopped around for years and then found what we wanted in Armour Chrome Hide Glue. It makes a joint that's stronger than solid wood!"

Woodworking experts like Mr. Montalbano know they can depend on the unfailing high quality of this time-tested glue. Armour Chrome Hide Glue is free of grease and will not stain even the lightest woods. Its glue line is clear and colorless—virtually invisible! And the joints produced by Armour Chrome Hide Glue are strong and permanent (shear strength up to 3500 lbs. per sq. in.)!

Armour Chrome Hide Glue has a wide working range, since it's less affected than most adhesives by temperature and humidity. Unvarying from lot to lot, it assures a uniform operation.

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235 South Hamilton Street • High Point, North Carolina

ABOVE—Dimension stacked for drying in shed is protected from sun and rain. Note flues in piles

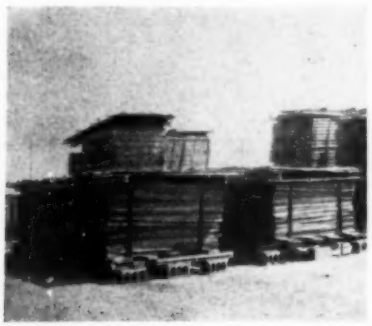
LEFT—Well built piles. Note sticker guides, sorted lengths and even ends. Roof is sloped. Chemicals keep weeds from yard

Check Yarding Methods to Cut Lumber Losses

Are piles located for proper air movement? — Is stack built and stickered right?—Is roof adequate, yard free of weeds?

By RALPH W. SHEPHERD

POORLY PILED stacks. Stickers irregular, ends project, roof scant



STACKING STICKS not in use stored in elevated, covered units

RESEARCHERS AND ENGINEERS have developed new kiln drying equipment and techniques, new machines for working and processing wood, new gluing and finishing materials and methods, yet fundamental methods and processes of air drying lumber still follow largely the traditional and haphazard practices established in the wood industry many years ago.

It is with air drying operations that we are primarily concerned here. Many of the traditional methods are followed almost blindly. How often have we stopped to ask ourselves why we do things the way we do, and how could we do it better? Can we prevent or reduce staining and season checking with the equipment at hand?

Let us examine a hardwood yard with piles built by hand. Are the piles located so that the faster drying lumber will get maximum circulation, and are the piles of lumber most subject to season checking located so that they are protected from excess air movement? Are the pile bottoms high enough to give free air passage under them, and are they free of weeds and grasses? Do the piles drain well, or do we find sticker rot in piles that have been on the yard for a considerable period of time? Do the roofs really protect the piles from rain and sun?

These and other questions arise when we stop and think, rather than continue blindly in the old familiar routine. Every yard supervisor, who frequently is also the dry kiln operator, should consider the problem of location whenever lumber is to be placed on the yard. Defects which occur in air drying often do not show up in full effect until much later when the lumber is being processed. Often these defects are blamed on kiln drying, when actually they resulted from bad placement of a [illegible] from some other troublesome condition.

Most yards at the average mill or plant have been in use for a long time and their areas are limited by existing buildings. Assuming these yards were originally laid out to take advantage of the then prevailing winds, do these winds still exist or has the yard been blanked off or surrounded by newer buildings?

Let us consider the average makeup of a typical yard, containing usually three distinct types of lumber. The first is the fast drying, easy to stain lumber used for core stock. Season checking, twisting and warping are minor problems with this stock. Where is a better place for this type than on the perimeter of the yard or in an exposed area where there is the most rapid air movement? The rapid air movement in these locations will help to prevent staining and will give more rapid drying with a quicker turnover of this type of stock.

The second type to consider is that which is most subject to twisting and warping. Much of this lumber is also subject to staining, and season check-

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ing is a secondary matter. Would not this stock be best in the middle ground, away from the most rapid air movement but not in the slowest area?

If any of this stock is put in the most rapid area of air movement, it should be the thinner stock. For instance, a stack of 8/4 hard maple put in a perimeter area would develop more season checking than if placed second or third stack in where it would have less air movement. This was demonstrated to the writer in the yard stacking of a shipment of green hard maple. The degrees of season checking were noted when the stacks were taken down, and no appreciable difference was found in the color or staining.

The third type found on the average yard is that lumber most subject to season checking. Why not take advantage of the slower drying areas to reduce the season checking?.

It might be worth while to study the yard and plan the location of stacks with these ideas in mind. There is promise that chemical treatment will some day solve many of these problems of staining and season checking. But until these treatments are universally used on all freshly cut lumber before leaving the mill the same problems that have confronted us for years will still have to be faced at the plant yards.

After we have examined our stacking plan and have determined where to stack the lumber to the best advantage the next questions concern the pile bottoms, stickers, roofs, separation of lengths, and spacing between stacks.

How good are the pile bottoms? Do they have sufficient clearance? The general opinion is that there should be a minimum of 18 inches between the ground and the lowest layer of the stack. Is the foundation substantial enough to hold the weight of a stack of green lumber but not so heavily made and braced that it will cut off the air movement?

Are the pile bottoms clean of trash and free of weeds and grasses? These things not only hurt the drying rate but are a potential source of continued infection of the bacteria causing stain, mold and rot. Drying weeds and grasses also present a fire hazard. Chemical weed killers and soil sterilizers are available that are effective in keeping the yard free of this type of nuisance.

Spacing between piles on the usual yard is quite often limited by the space available and the number of piles needed. Vary the spacing according to those needs, keeping in mind that too close spacing will slow circulation and encourage staining for one type of lumber and too open spacing will increase the hazard of checking for other types of lumber.

When building our piles, local conditions often play a part in determining whether to separate lengths and build stacks of one length, to closely group lengths, or to box pile all lengths. When lengths are sorted and stacked separately, more yard space is frequently required than for box piling. The advantages, however, are more uniform support of the lumber and reduction of checking which can develop in the more openly piled ends of the boards in the box pile.

Another important feature of stacking is the type of sticker used and the placement of the sticker. Too often piles of green lumber are self stickered, and the crossing boards are four to six or more in. in width. The result is much slower drying at the crossings, which often means staining and checking. Frequently staining is so severe that it does not surface out in dressing

Continued on Page 61

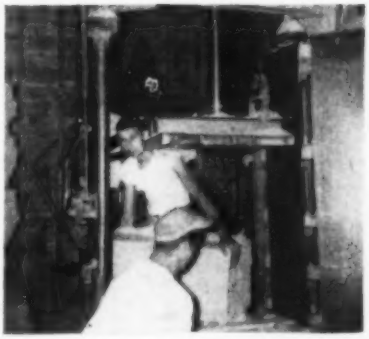
Baled Shavings Help Pay Costs of Operating Kiln

MARTIN LUMBER CO. has found a market for wood shavings accumulating in the manufacture of five to six million bd. ft. of white pine lumber. The company bales and ships from 150 to 200 carloads of these pine shavings annually for use in agricultural purposes (including crop mulching and bedding of livestock), smoking fish and packaging. Baling and shipping is conducted at the company's Lake George, N. Y., concentration yard.

DORR T. MARTIN, company president, reports the sale of shavings helps to defray the cost of operating its fully automatic kiln boiler which uses oil for heat. Daily lumber and planing mill operations result in 300 to 400 bales of shavings per 8 hour day. The bales are loaded into the press through a hopper feeding shavings from an overhead storage room.

Each bale, fastened with steel straps and wooden slats into a nice appearing and convenient package, weighs from 50 to 60 lb. Bales are loaded by conveyor into a railroad car on the siding, each car averaging 540 bales. It is necessary to bale the shavings to keep this waste product from becoming a burden and nuisance around the plant.

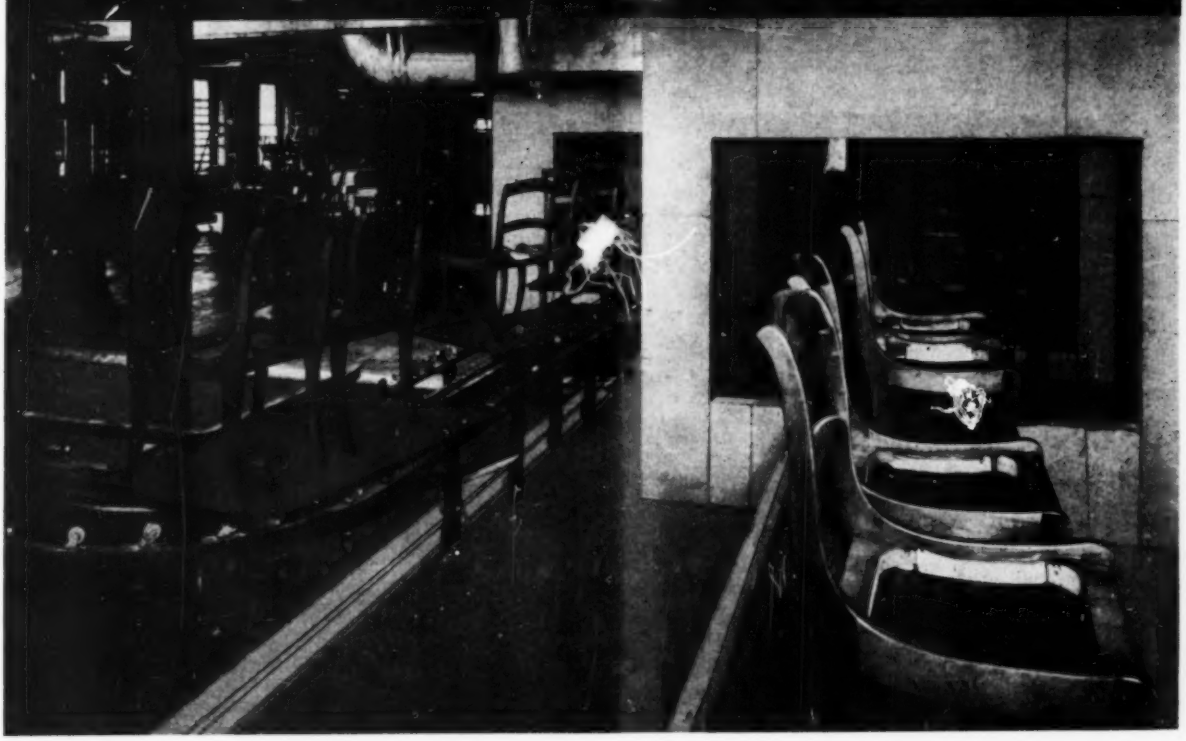
LEFT — Shavings being pressed into bale at Martin Lumber Co.



BALE, still in open press, is being secured by steel straps, wooden slats

NEATLY PACKAGED bales are loaded by conveyor into railroad car

6* WAYS YOU'LL PROFIT WITH A Complete DeBurgh Finishing System



- LABOR SAVINGS UP TO 50% (OFTEN ENOUGH TO PAY FOR THE COMPLETE SYSTEM IN A MATTER OF MONTHS)
- PATENTED "CLOSE-PACK" FEATURE SAVES DRYER SPACE
- OFFERS TREMENDOUS SAVINGS TO SMALL PLANTS AS WELL AS LARGE THROUGH PATENTED "MULTIPLE-CYCLE" SYSTEM
- ALMOST ALL OPERATIONS CAN BE PERFORMED WITHOUT REMOVING UNITS FROM THE CONVEYOR PALLET
- ALLOWS NEARLY 100% PRODUCTIVE MAN-HOURS ALONG THE CONVEYOR LINE
- INSURES BETTER QUALITY CONTROL. TIME SAVED BY CONVEYORIZATION ALLOWS MORE TIME ON QUALITY

* There are many more advantages you should know about. Why not let a Koch finishing expert look over your set-up now? It could easily be your wisest decision of the year.

Phone, Wire or Write Today!

GEORGE KOCH SONS, INC.
EVANSVILLE, INDIANA

YARDING METHODS

Continued from Page 40

the lumber, with the resultant waste of otherwise good lumber.

Green boards or wide boards should never be used as stickers. Stickers should be dry, approximately one inch thick and 1½ in. wide.

The pile should be slanted approximately ½ in. to the foot outward from the bottom to the top in order to drip the rain and melting ice or snow so that it will not run back into the stack. The front sticker should cover the ends of the boards, usually a spacing of two feet between stickers from front to back is satisfactory. The back sticker should again cover the ends of the boards to reduce so far as possible end checking and splitting.

Stickers should be laid up on the same slant as the front of the pile in order to give uniform pressure to the boards at each crossing.

The need of a flue in the pile is usually governed by the width of the pile. A pile eight ft. wide should have a center flue while one six feet wide normally drys satisfactorily without a flue if the spacing between boards is adequate.

Roofs are worth much more consideration than are usually given them. Every stack should be roofed to protect the lumber from both sun and rain. There are a number of materials used in roofing but the most common is cheap and plentiful low grade lumber. Such lumber, however, is too often warped, split or contains open knot holes. These things do not make for a good roof. A tight, well draining roof which overhangs front, rear and sides will protect the lumber and will prove its worth in the reduction of degrade.

Stacking seems to be such a routine operation that perhaps too little attention has been paid to it or the results obtained. The usual question about air dry stacks is: "Is this lumber dry enough to kiln dry or ship?" How much attention is paid to a stack when it is being taken down?

The writer had occasion recently to take down several stacks of 8/4 red oak, plain sawn. One group had been stacked in the May-June period in 1952, the other group was stacked in the October-November period of the same year. Both groups were cut at the same mill and from the same tract of timber.

These stacks were built in the accepted manner, slanted from bottom to top, sloped front to back, 1½ in. stickers at two foot intervals, lengths separated into 8-14-16 and 10-12 with odd foot lengths included. The stacks were roofed in a seemingly satisfactory manner with good overhangs.

It was interesting to note the incidence of season checking. To begin with, there was slightly less checking in the October-November group than in the May-June group. As each stack was taken down these facts came to light uniformly. The upper five layers showed heavy checking on both faces, the next five layers showed a reduction in checking, particularly on the under side of the boards. From this point on the checking definitely diminished with many boards showing no checking. The lower half to one third of each stack showed practically no checking except that edge boards wider than six inches were almost all checked, those under six inches were seldom checked.

In the case of those stacks of eight quarter these questions came to the mind of the writer. Why is the heaviest checking in the top five layers and why is there less checking on the under side of the boards in the next five? Could it have been that the roof was not as tight as it looked? Perhaps there was too much space between the top layer and the roof and rain drove in under the roof.

The writer believes that if each of us having to do with drying lumber would examine our operation we would find that we could do a better job and improve the quality of the product, thoroughly air dry lumber.

In a wide range of grits and widths for sanding, smoothing, polishing all types of wood products.

ABRASIVE PRODUCTS, INC.
553 Pearl Street
South Braintree 85
Massachusetts

"We have used Melurac® 300 for Six Years

for laminating veneers of our molded plywood boat hulls"

—reports Mr. Carlton H. Foster, *President*
Dunphy Boat Corp., Oshkosh, Wis.

Here is Mr. Foster's voluntary statement in full:

"After exhaustive tests with various resin bonds, the Dunphy Boat Corporation has for the past six years used MELURAC 300 powdered melamine-urea-formaldehyde resin for the lamination of the veneers in the bag-molding production of molded plywood boat hulls.

"We continue to use this adhesive exclusively for various reasons, the first naturally being that it produces a bond of complete durability when exposed to the extreme climatic conditions found not only in the United States, but also in Alaska and the tropics of Central and South America, and in both fresh and salt water.

"While durability of the adhesive is the paramount prerequisite for a bonding resin, other factors that influenced our choice were MELURAC's dependability in preparation, excellent shop life, ease of handling through the spreaders, elimination of resin stain, and lessening of dermatitis in handling."

Like to know more about the advantages of MELURAC 300? Write today. Our sales engineers will be glad to consult with you about *your* application. Samples available for evaluation under your own test conditions.

AMERICAN *Cyanamid* COMPANY
PLASTICS AND RESINS DIVISION
38A Rockefeller Plaza, New York 20. N. Y.

In Canada: North American Cyanamid Limited, Toronto & Montreal

YARDING METHODS

Continued from Page 40

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Like to know more about the advantages of MELURAC 300? Write today. Our sales engineers will be glad to consult with you about *your* application. Samples available for evaluation under your own test conditions.

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CURRENT LUMBER PRICES

These prices are made available by George Land, publisher of the weekly *Hardwood Market Report*, in his copyrighted issue of November 6, 1954. For the entire list, contact Mr. Land, Box 5716, Memphis 4, Tenn.

Note: Each price change from preceding issue is marked by an asterisk (*).

SOUTHERN HARDWOODS

F.O.B. mills—Texas and Louisiana area. Estimate of present mill point average market price, to consuming trade on band-sawn Southern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

ASH—FIRM TEXTURE	FAS	No. 1C	No. 2C
4/4-in.	156	116	58
6/4-in.	170	125	66
8/4-in.	190	150	80

BASSWOOD			
4/4-in.	160	125	83
6/4-in.	170	135	87
8/4-in.	180	145	90

BEECH			
4/4-in.	120	95	47
6/4-in.	140	110	60
8/4-in.	167	127	72

CHERRY	FAS	No. 1C	No. 2C
4/4-in.	220	150	90
6/4-in.	240	170	95
8/4-in.	250	180	100

RED GUM—PLAIN			
4/4-in.	205	150	75
6/4-in.	230	170	75

RED GUM—QUARTERED			
4/4-in.	220	165	75
6/4-in.	250	190	90
8/4-in.	260	200	95

SAP GUM—PLAIN			
4/4-in.	105	85	43*
6/4-in.	127	108*	
8/4-in.	145	120	

HACKBERRY			
4/4-in.	110	90	65
6/4-in.	132	112	75
8/4-in.	135	112	75

SOFT MAPLE—WHAD			
4/4-in.	130	110	67
6/4-in.	145	120	77
8/4-in.	155	125	80

SOFT MAPLE—WHND			
4/4-in.	115	90	60
6/4-in.	130	105	75
8/4-in.	135	110	80

RED OAK—PLAIN			
4/4-in.	175	90*	70
6/4-in.	190	130	
8/4-in.	200	140	

WHITE OAK—PLAIN			
4/4-in.	185	105	70
6/4-in.	200	140	
8/4-in.	205	145	

PECAN			
4/4-in.	105	85	50
6/4-in.	130	110	60
8/4-in.	155	130	65

POPLAR—PLAIN	FAS	S&S	No. 1C
4/4-in.	170	160	130
6/4-in.	185	175	140
8/4-in.	205	195	150

SYCAMORE—PLAIN	FAS	No. 1C	No. 2C
4/4-in.	115	95	60
6/4-in.	127	107	62

TUPELO—PLAIN TUF TEXTURE—DEEP SWAMP			
4/4-in.	105	85	43*
6/4-in.	127	107	53
8/4-in.	145	120	

WILLOW			
4/4-in.	130	95	58
6/4-in.	142	110	67
8/4-in.	150	115	70

APPALACHIAN HARDWOODS

F.O.B. mills—Johnson City, Tennessee area. Estimate of present mill point average market prices on sales to consuming trade on band-sawn Appalachian Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars upper bracket grades premiums are frequently being paid.

TOUGH ASH	FAS	F1F	No. 1C	No. 2C
4/4-in.	170	160	115	68
6/4-in.	190	180	130	75
8/4-in.	200	190	150	85

BASSWOOD				No. 2A
4/4-in	175	165	125	83
6/4-in.	185	175	132	85
8/4-in.	195	185	142	96

BEECH				No. 2C
4/4-in.	140	130	105	60
6/4-in.	155	145	115	70
8/4-in.	170	160	130	80

BIRCH				
4/4-in.	265	255	150	80
6/4-in.	275	265	160	85
8/4-in.	280	270	165	90

BUCKEYE				
4/4-in.	135	125	100	60
6/4-in.	165	155	120	68
8/4-in.	170	160	125	75

CHERRY				
4/4-in.	230	220	150	90
6/4-in.	250	240	170	95
8/4-in.	260	250	180	100

CHESTNUT	FAS	No. 1C	FAS WHND	1C&B WHND
4/4-in.	170	120	137	127
6/4-in.	175	125	142	132
8/4-in.	180	130	152	142

HICKORY	FAS	F1F	No. 1C	No. 2C
4/4-in.	125	115	78	53
6/4-in.	145	135	86	58
8/4-in.	170	160	90	60

HARD MAPLE				
4/4-in.	205	195	135	75
6/4-in.	220	210	155	79
8/4-in.	225	215	160	85

SOFT MAPLE				
4/4-in.	165	155	115	67
6/4-in.	175	165	135	69
8/4-in.	180	170	140	75

RED OAK—PLAIN

4/4-in.	185	175	115	78*
6/4-in.	200	190	135	
8/4-in.	215	205	145	

WHITE OAK—PLAIN

4/4-in.	200	190	120	78*
6/4-in.	220	210	145	
8/4-in.	225	215	155	

WHITE OAK—WHND

	FAS	F1F	C & B	No. 1C
4/4-in.	125	115	95	90
6/4-in.	150	140	120	115
8/4-in.	160	150	130	120

YELLOW POPLAR

	FAS	F1F	No. 1C	No. 2A
4/4-in.	200	190	129	78
6/4-in.	220	210	145	84
8/4-in.	225	215	155	90

POPLAR SQUARES

	FAS	No. 1C & SD
4x4-in.	245	175
6x6-in.	280	190
8x8-in.	340	240

WALNUT—STEAM TREATED

	FAS 6"&up	F1F 6"&up	No. 1C	No. 2C
4/4-in.	370	325	180	75
6/4-in.	395	350	215	90
8/4-in.	420	375	235	95

Walnut list reflects average fob mill, all areas. Basing point not generally observed.

NORTHERN HARDWOODS

Estimate of present f.o.b. Wausau, Wisconsin mill point average market prices to consuming trade on band-sawn Northern Hardwoods in carload quantities, random widths and lengths, rough air dried and graded in accordance with NHLA rules on inspection. Prices in dollars per M ft. On straight cars of upper bracket grades premiums are frequently being paid.

BROWN ASH

	FAS	No. 1C	No. 2C
4/4-in.	155	107	75
6/4-in.	165	122	85
8/4-in.	170	132	90

BASSWOOD

4/4-in.	191	131	80
6/4-in.	201	141	90
8/4-in.	206	151	98

BEECH

4/4-in.	145	100	68
6/4-in.	160	115	78
8/4-in.	165	120	80

BIRCH

4/4-in.	296	151	76
6/4-in.	306	166	91
8/4-in.	311	181	100

ROCK ELM

4/4-in.	150	130	66
6/4-in.	160	140	76
8/4-in.	165	150	81

SOFT ELM

4/4-in.	140	120	69
6/4-in.	150	130	80
8/4-in.	155	135	87

HARD MAPLE

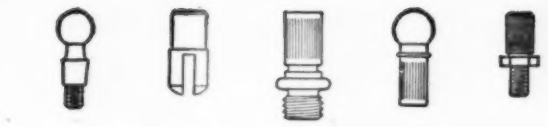
4/4-in.	196	131	75
6/4-in.	206	141	81
8/4-in.	216	151	83

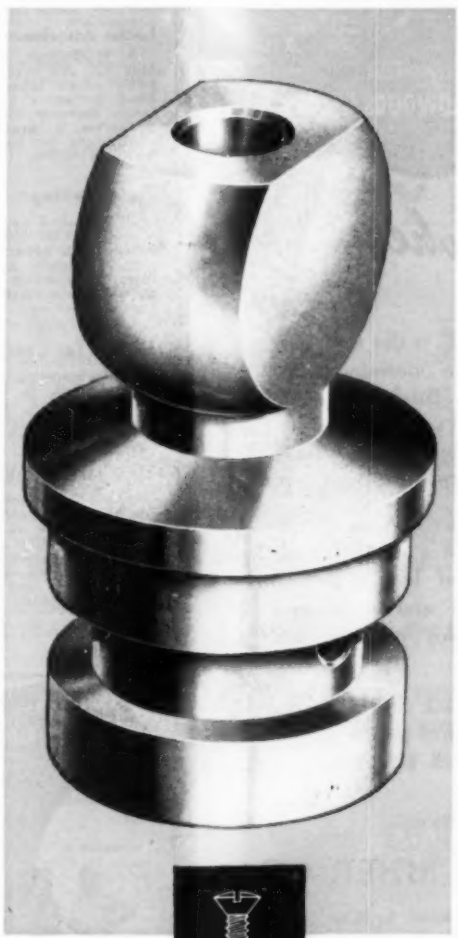
SOFT MAPLE

4/4-in	160	125	75
6/4-in.	175	135	85
8/4-in.	190	145	93

RED OAK

4/4-in.	186	126	75
6/4-in.	196	146	83
8/4-in.	206	166	85





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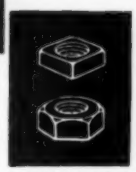
TAPPING SCREW

TWIN-FAST SCREW

STOVE BOLT

MACHINE SCREW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The Atlantic Lumber Co. are Birch specialists. Here is just a small pile of the huge quantities of logs that are milled daily. Forests and mills are strategically located for your advantage.

Where ever you are ask your Atlantic Man for information and prices today. There's no better Birch anywhere.

THE
ATLANTIC LUMBER CO.

88 Broad Street, Boston 4, Mass.
1055 Seneca Street, Buffalo 10, N. Y.

PATENT DIGEST

Adhesive

S. B. Luce (to Swift and Co.) U. S. 2,677,672, May 4. Wood adhesive consisting of polyvinyl acetate emulsion and a vinyl methyl ether maleic anhydride copolymer.

Lathe Attachment

A. E. Gingras, U. S. 2,678,069, May 11. Die block for a back knife gauge lathe comprising a block having a hole of slightly larger diameter than that of the workpiece, a housing, a plunger, and means for holding the work to an exact line.

Billet Sawing

J. S. Kakuk and S. J. Kakuk, U. S. 2,680,457, June 8. Circular billet sawing apparatus comprising a main support, a saw carrier, a hollow cylindrical saw rotatable on the carrier, and work supporting means.

Device for Cutoff Saw

K. H. Grammer (to G. E. Whitmore and R. D. Smith). U. S. 2,680,458, June 8. Measuring, beveling, and mitering device for power-driven cutoff saws.

Hardboard Making Method

O. W. Frost and G. E. Tower (to Stimson Lumber Co.). U. S. 2,680,995, June 15. Preparing a wood pulp, adding a thermosetting resin, precipitating the resin, preparing a wet lap, applying thermosetting resin, and curing under heat and pressure.

Molded Irregular Shaped Panels

E. A. Patton (to Curtis Companies, Inc.). U. S. 2,682,083, June 29. Heating under pressure a mass of comminuted wood and resinous binder to form panels of irregular shape.

Molded Resin-Wood Panels

E. A. Patton (to Curtis Companies, Inc.). U. S. 2,682,083, June 29. Molded resin-wood panels.

Glue Spreader

F. A. Nicholson. U. S. 2,682,254, June 29. Glue spreader for lumber comprising a driven doctor roll, an applicator roll, the spread depending upon the opening between the two rolls.

Circular Saw Machine

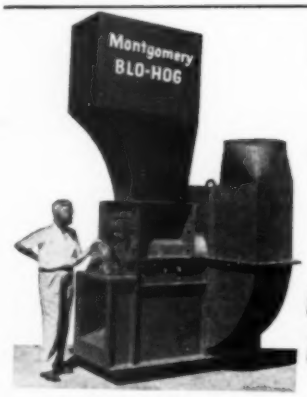
P. L. Blum (to Blum Bros. Box Co.). U. S. 2,682,285, June 29. Machine for performing a circular sawing operation.

Hygrometer

J. W. Case. U. S. 2,682,858, July 6. In a hygrometer, a moisture-sensitive tubular wood membrane.

Scarfing Machine

G. B. Upham (to Summerbell Roof Structures). U. S. 2,684,699, July 27. Machine for cutting mutually opposed scarfs on an end of a wooden element.



The Marvelous Montgomery

BLO-HOG

Patents Pending

(The only all-purpose hog in the world)

Eats Up Everything!

C.I.T. Terms Available

. . . including Pine, Oak, Gum, Hickory, Elm, Cedar, Wet Veneer and Sandy Bark. Conveyor-fed — no attendant required. Positively protected from major damage by tramp steel. All connections locked — nothing to shake loose. Maintenance costs unbelievably low.

". . . Dear Mr. Montgomery: It is an unbelievable machine and it is still hard to believe that it is actually handling the enormous volume of scrap we are feeding into it. We operate the hog without an attendant — which means a considerable saving." — J. B. BLACK, Ocala Mfg. Co., Ocala, Fla.

Sumner Iron Works, Everett, Washington, W. Coast Rep.
Canadian Sumner Iron Works, Ltd., Vancouver, B.C., Canadian Rep.

Write for bulletin and details

JACKSONVILLE BLOW PIPE CO.

P. O. BOX 3687 - JACKSONVILLE, FLORIDA

Resin-Bonded Hardboard

O. W. Frost and G. E. Tower (to Stimson Lumber). U. S. 2,680,995, June 15. Resin-bonded hardboard.

Rods

H. Degen (to H. Heid). U. S. 2,681,086, June 15. Device for the manufacture of round corrugated wooden rods comprising a rotatable carrier member connected to a rotary spindle and including a disc having an axial opening in alignment with a hollow cylindrical cutter and knurling wheels, the knurling motion causing a feeding of the workpiece.

Log Barking

C. E. Prentice. U. S. 2,681,670, June 22. Log barking apparatus comprising a pair of tracks, a pivoted carriage, a cutter, and actuating means.

Resins

H. F. Muller (to Institut International Financier of Eschen). U. S. 2,683,706, July 13. Mixing ligneous material with caustic, heating to evaporate the moisture, dissolving in water, and precipitating with acid.

Bowling Pins

F. B. Maly (to Vulcan). U. S. 2,681,672, June 22. Cutting defective bowling pin forms, bonding clear sections, and turning the composite pins.

Lumber Bunching

T. E. Coffman. U. S. 2,681,724, June 22. Machine for bunching boards comprising a board supporting rest mounted for gravity feeding and means for standing boards on end.

Molding Composition

F. A. Hesael and W. B. Canfield (to Montclair Research Corp. and Ellis-Foster Co.). U. S. 2,681,893, June 22. Molding composition prepared by adding hexamethylene tetramine to wallaba flour.

Peeling Machine

R. D. Graham and W. T. Stockett (to State of Ore.). U. S. 2,684,089, July 20. A peeling or incising machine comprising a rotary incising head, a pressure roll above and diametrically opposed thereto, and a positioning turntable.

Debarking Drum

G. M. Dick (to Ingersoll-Rand Co.). U. S. 2,684,092, July 20. A bark removing drum having a welded hoop construction.

Glue Feed Chain

V. J. Winkel (to Laminated Lumber Products, Inc.). U. S. 2,684,149, July 20. A chain comprising a plurality of endwise connected sprocket links for feeding lumber for gluing operations.

Acid Resisting Material

F. Booth (to British Fibrak Separator Co., Ltd.). U. S. 2-683,400, July 13. Method of making separators for storage batteries comprising digesting balsa with caustic, adding phenolic resin, filtering to form a sheet, impregnating with phenolic resin and drying, heating to cure the resin.

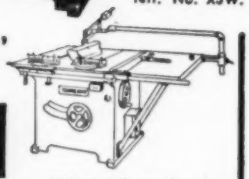
Dado Cutter

L. K. Courcier. U. S. 2,683,476, July 13. Rotatable cutter head for dadoing a groove in a workpiece comprising a core plate having apertures and a plurality of peripheral recesses containing cutter bits.

With extended table at right and removable roll-table at left. No. XJW.

Tannewitz "XJ"

FINEST THING IN MITRE SAWS!



Sliding left section top and extended table at right. No. XJSW.

Choice of 5 different tables enables you to obtain a mitre saw that matches EXACTLY your production requirements. Does away with awkward working conditions, steps up production, and saves time and money. Nothing like it. Moderately priced. Write for Bulletin XJ.

Standard solid table. (No. XJ) or sliding left section. No. XJS.

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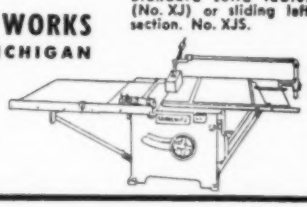
GRAND RAPIDS, MICHIGAN



Extended table at right — extended sliding table at left. No. XJSW — J-430.

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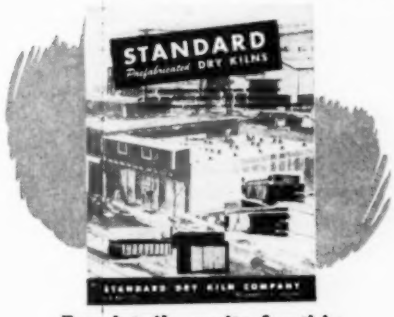
Prefabricated
DRY KILNS

CUT COSTS 3 *ways!*

- CUT ERECTION COST
- CUT OPERATION COST
- CUT MAINTENANCE COST



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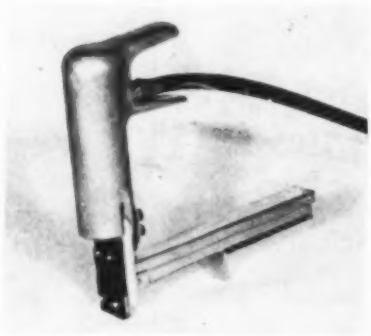
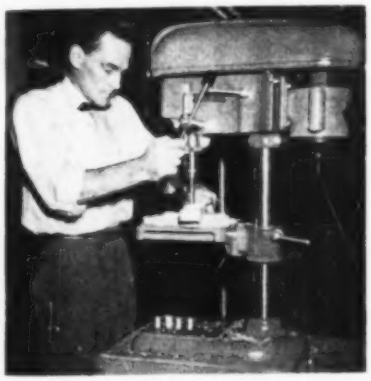


Air-Driven Tacker

Bostitch, Inc., Dept. WP, 333 Mechanic St., Westerly, R. I., has designed its new T-3 air tacker to speed numerous woodworking jobs from tacking glazing strips, decorative molding and furniture backing, to pinning tenons in mortises. The T-3 drives a new type of narrow crown staple with leg lengths from ¼ to ¾ in., which can be countersunk, driven flush with work or left protruding for use as hooks, hinges, etc. The lightweight tacker operates at high speed with little effort and a minimum air pressure of 70 lb. p.s.i.

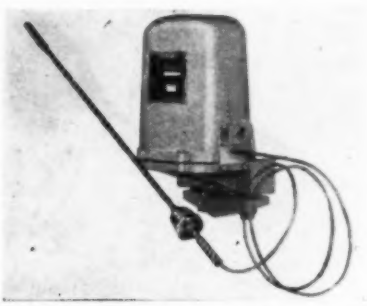


Redesigned Drill Press

A new 14-in. drill press, which incorporates all the features of older models, has been introduced by Delta Tool Div., Rockwell Mfg. Co., Dept. WP, 437 N. Lexington Ave., Pittsburgh, Pa. New features in the redesigned model include: a counterbalanced full length belt guard at the rear; pivoting motor mounting plate; modified quill to all 4 5/16 in. spindle travel; side opening to facilitate spindle removal; quick-set depth gauge; and self-locking depth stop.

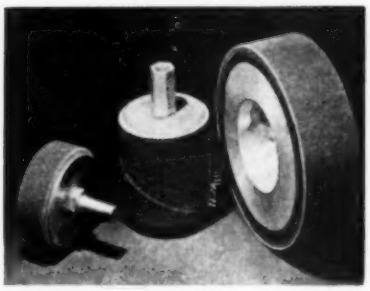
Industrial Tape

The availability of Permacel 16 Hi-Tack strapping tape in a wide range of colors is announced by Permacel Tape Corp., Dept. WP, New Brunswick, N. J. Often used for holding drawers and doors of furniture closed during shipment, the cellulose acetate film, rayon reinforced tape has shock resistance to withstand breakage.



Temperature Transmitter

An instrument which accurately measures process temperatures and pneumatically transmits the information to a central recording or controlling station has been announced by the Foxboro Co., Dept. WP, Foxboro, Mass. Known as the Model 12A temperature transmitter, it is a nonindicating device of the "force balance" type with a calibrated accuracy of ½% of the temperature span and compensated for ambient temperature and barometric pressure variations. The weatherproof instrument is available with spans ranging from 50° to 400° F. and can be utilized between the limits of −100° F. and +1000° F.



Abrasive Band Wheels

Even-Cut rubber-cushioned abrasive band wheels are now furnished in over 50 sizes from ¼ in. diameter by ½ in. width to 6 in. diameter by 2 in. width by Even-Cut Abrasive Band Co., Dept. WP, 8212 Carnegie Ave., Cleveland, Ohio. Matching abrasive bands are available in open, closed and spaced grain coatings in aluminum oxide, silicon carbide and garnet in grits from 24 to 400. Special lapless construction permits bands to be run in either direction and elimi-

Machine beveled, "Penacolite"-bonded ship rib—complete and ready to frame a vessel.

Penacolite®-bonded white oak replaces solid stock in marine members

built by Unit Structures, Inc.

TRADITIONAL sawed, shaped and bolted assemblies of solid stock have been replaced by machine beveled "Penacolite"-bonded white oak marine members built by Unit Structures, Inc. of Peshtigo, Wisconsin. The result: a combination of maximum strength with minimum weight—possible only with lamination. In addition, framing time is reduced and production costs are lowered.

Tough bonding jobs like this call for dependable "Penacolite" Adhesives. They are easy to work with and set quickly. "Penacolite" bonds are permanent—strong as the wood itself—and waterproof in both salt and fresh water. To find out more about "Penacolite" Adhesives and how they might help you, write to us today.

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KOPPERS COMPANY, INC.

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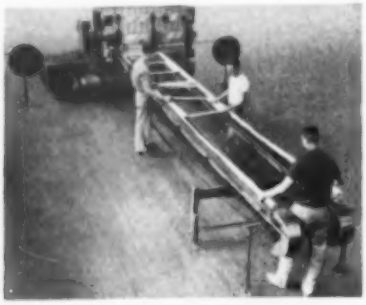
PENACOLITE® RESORCINOL ADHESIVES

The original resorcinol, waterproof, room-temperature-setting adhesives

nates fraying of edges. The wheels are furnished with ⅛ in. or larger round shanks.

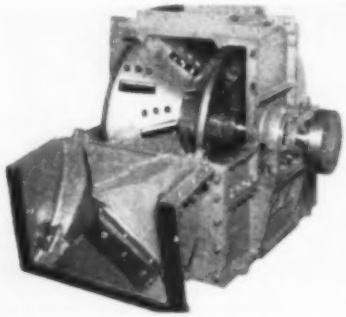


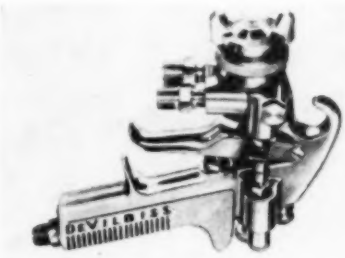
Multiple Head Fastener Driver

A chain feed multiple-head corrugated fastener driver is one of over a thousand different models of fastening machines built by Saranac Machine Co., Dept. WP, Benton Harbor, Mich. The multiple-head driver assembles modern flush door frames for one manufacturer at speeds that boosted production of a three-man team by 400%. Saranac also builds specialized machines for all the steps in fastening wooden baskets, boxes, crates and wood-cleated cases used for shipping heavy furniture, refrigerators, ranges, etc. All machines form, drive and clinch their own staples or wire stitches directly from continuous coils of standard wire.

Double Anvil Hog

The 48 in. double anvil hog of the Filer & Stowell Co., Dept. WP, 147 E. Becker St., Milwaukee, Wis., is designed so that both the front anvil hood and the rear hood may be swung wide open to allow free access to change and adjust the machine's 20 knives to cut large or small chips. Like the firm's larger 62 in. hog, the machine has the spout opening directly overhead; the weight of the stock forces the feed with its own weight. The steel disc knives do not extend entirely across the face of the discs but are divided into rows and placed in staggered positions and arranged to shear the full width of the anvil. This eliminates the strain of a full cut to one knife.





Catalyst Spray Gun

A catalyst spray gun designed to spray simultaneously both plastic resin and catalyst is now being marketed by the DeVilbiss Co., Dept. WP, 300 Phillips Ave., Toledo, Ohio. Manufacturers state that the DeVilbiss gun is the only one made which will assure a uniform mixture of resin and catalyst. The former is fed to the gun through the fluid line and the catalyst is introduced through the air stream. When the gun trigger is actuated, catalyst and resin meet outside of the single air cap and are atomized uni-

NEW! IMPROVED STIX

FOR CEMENTING

- CONSOWELD
- FORMICA
- RESILYTE
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- TEXTOLITE
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- LAMINEER
- V-BOARD
- PARAPLEX
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...THE ONLY CEMENT WITH THE LONGTIME SHELF LIFE GUARANTEE

NEW STIX Does Not Thicken With Age.
STIX Needs No Clamps, Presses or Heat.

ADHESIVE PRODUCTS CORP.
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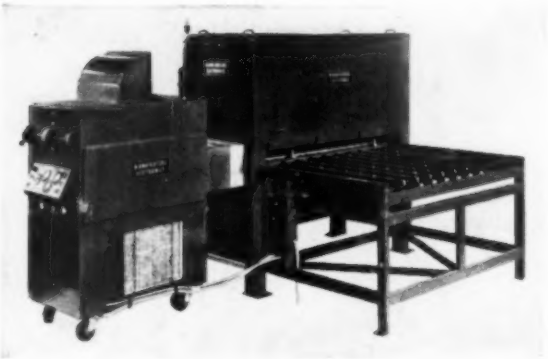
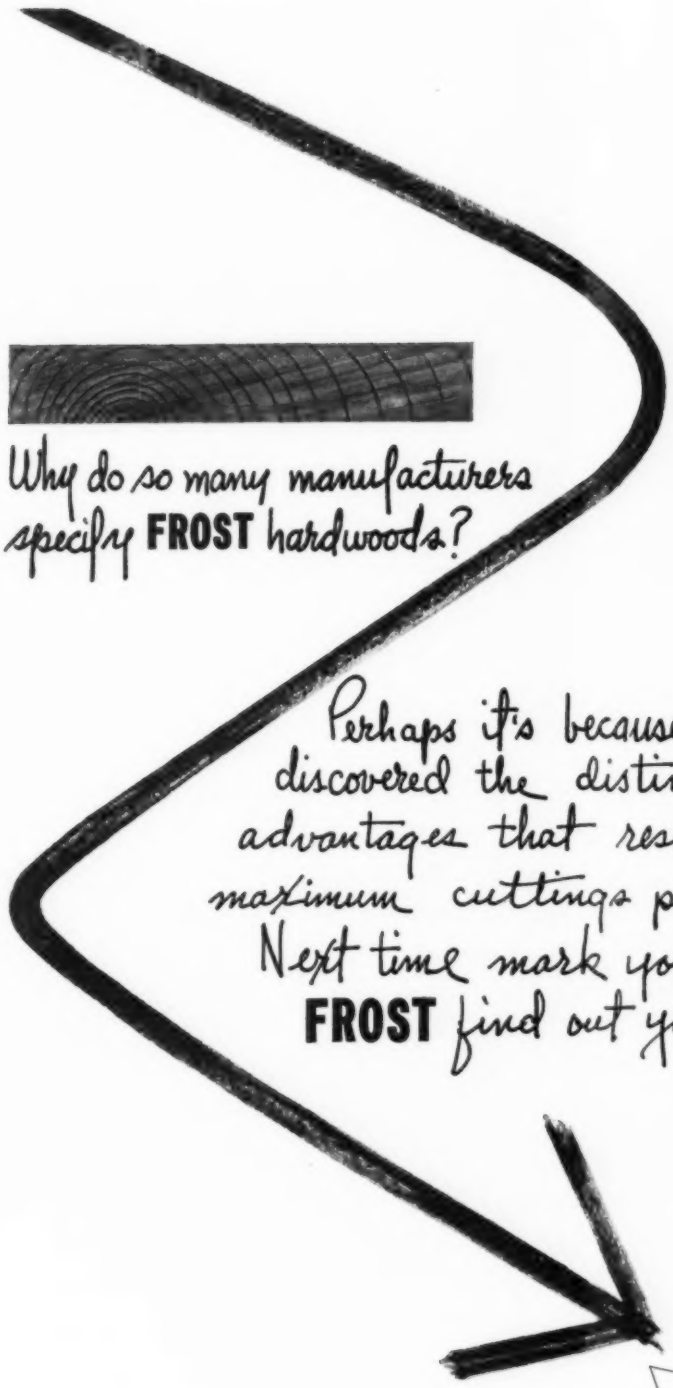


FULL PANEL PLYWOOD SCARFING takes only seconds to solid-set with this Mann-Russell Electronic Scarfing Press. No excessive pressure is required. The "feather edge" tips of the scarf are completely cured and are "ironed out," scorched faces are eliminated. This is just one of a complete line of Mann-Russell Electronic Generator-Equipped patchers, presses, veneer and lumber edge-gluers. Equipment is engineered to specific use requirements, installed and serviced as a single-responsibility package. Write MANN-RUSSELL ELECTRONICS, 2156 Pacific Avenue, Tacoma 2, Wash.



Why do so many manufacturers specify **FROST** hardwoods?

Perhaps it's because they've discovered the distinct advantages that result in maximum cuttings per hour. Next time mark your order **FROST** find out yourself.

Frost

FOREST PRODUCTS DIVISION OF OLIN INDUSTRIES, INC.

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50th Anniversary HUTTIG MILL

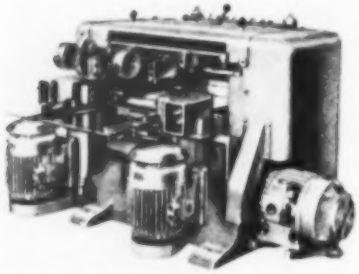
Olin

Producers of: Frost Golden Pine • Flooring • Hardwoods • Treated Materials • Outdoor Furniture

formly so the correct amount is applied to the surface being sprayed.

Industrial Cement

Aluminum, steel and copper can be contact bonded to wood with fast-drying Roltite industrial cement, a contact-type adhesive developed by the Midcontinent Adhesive Co., Dept. WP, Grove City, Ohio. No clamps or presses are required and in a drying oven, it will dry in less than three minutes. Plywood, wood veneer, Masonite and Novoply are among the materials which can be bonded by Roltite.

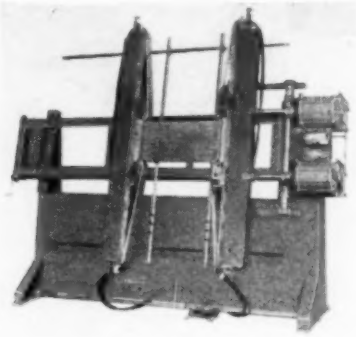


Planer and Moulder

Supreme Woodworking Machinery Corp., Dept. WP, 50-52 Howard St., New York, N. Y., has introduced a machine which will plane or mould all four sides of large timber in one operation. In addition the 4-sided planer-matcher-moulder acts as an efficient power-fed surfacer. When dressing four sides, the machine handles pieces up to 24 by 4 in., and up to 7 in. thick when dressing two sides.

Miter Gage

Max universal miter gage is a protractor attachment for power tools and is manufactured by Max Mfg. Co., Dept. WP, 138 Stockton Ave., San Jose, Calif. In place of the conventional single face this gage has two working faces at right angles to each other, permitting angle cutting or grinding with a full range of single and complementary angles without change of settings. The body of the gage is made of a tough aluminum alloy and is mounted on a $\frac{3}{8}$ by $\frac{3}{4}$ in. steel bar which fits most makes of power tools, including the firm's 16, 20, and 30 in. disc sanders and grinders.



Edge Banding Machine

J. M. Lancaster, Inc., Dept. WP, P.O. Box 2462, Greensboro, N. C., is now marketing its No. 1425-A3 edge banding machine, which is powered by two 8 in. bore, 8 in. stroke, cushioned air cylinders. The heat is obtained from a 5 KVA transformer, and spring-action tension rigs mounted on ends of jaws provide an effective means of keeping the heating elements stretched tight on shaped and round corner work. The machine will band

No Production Interruption

PONDEROSA PINE
•
SUGAR PINE
•
DOUGLAS FIR
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WHITE FIR
•
INCENSE CEDAR

This has enabled us to service our customers promptly and also hold a balanced inventory for the Fall lumber trade.

We are at your service for straight or mixed cars.

OUR SPECIALTY

Kiln-dried precision manufactured products—Mouldings—Interior Trim Jambs—Frames—Rails—Venetian Blind Slats from California Incense Cedar—Cut Stock—Glued Panels Box Shook—

The Ralph L. SMITH Lumber Company

Mills at Anderson and Castella
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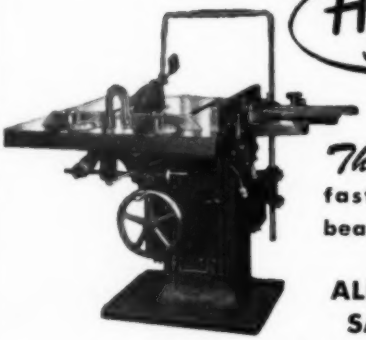
WESTERN PINE ASSOCIATION WPA

Can You Handle Sustained HIGH SPEED?



Then **install a fast feed, ball-bearing equipped MOAK ALL-PURPOSE SAW TABLE**

With today's high break-even points, it is essential to lower your costs by increasing your productivity. And the way to increase your productivity is to install Moak All-Purpose Saw Tables.

FAST ADJUSTMENTS: with accurate rip and cut-off gauges.

FAST FEED: lumber slides across smooth table.

FAST FINISHING: cuts to the line, minimizes sanding.

AVAILABLE IN SPECIAL OR STANDARD MODELS

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"OFFICE OF TOMORROW"
Museum of Science and Industry, Chicago

The use of "enchanted walnut" in this conference table-desk, and the wall panels beyond, is proof that tomorrow's highly functional offices will continue to delight the senses with the glowing warmth and enduring beauty of genuine wood.

The matched veneers in the desk and wall panels are products of Evansville Veneer & Lumber Company, leaders for a half century in the manufacture of quality veneers.

When in need of fine veneers in flitch or tapeless spliced faces, in Walnut, Mahogany or Oak . . . . or rotary cut Poplar, Gum or Sycamore . . . call on us for samples.

Photos by Bill Hedrich, Hedrich-Blessing

EVANSVILLE VENEER AND LUMBER CO. 50 YEARS EST. 1904

Evansville Veneer & Lumber Co. INC.

EVANSVILLE 7 INDIANA

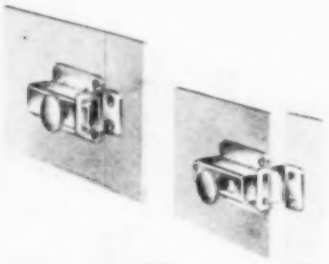
straight and shaped work up to a maximum size of 3 in. thick, 80 in. wide and 80 in. long, and round corner work up to a maximum size of 3 in. thick, 56 in. wide and 80 in. long.

Single Surfacer

Model P-18 single surfacer has been added to the Crescent line of woodworking machinery of the Enterprise Co., Dept. WP, Columbiana, Ohio. Featured on the machine is the Crescent four-knife round safety head, and drives are available with either motor built directly on cutterhead or arranged for V-belt drive. Feeding speeds range from 15 to 45 f.p.m.

Primer Knot Sealer

The Western Pine Association research laboratories have announced the development and release of a special formula for making a combination primer and knot sealer to be used in painting knotty grade woods. The formula is a further development of the universally-used clear sealer which the laboratory released for manufacture several years ago. Information concerning names of manufacturers of both the clear sealer and the primer-sealer may be obtained by writing the Western Pine Association, 510 Yeon Bldg., Portland 4, Ore.



Sliding Latch

Access doors and panels, either hinged or removable, are drawn up tight against frames or gaskets by a turn on the knob of a new inexpensive sliding latch, manufactured by Southco Division, South Chester Corp., Dept. WP, Lester, Penna. Sealing against dust and water is made convenient through adjustable pawl pressure applied by turning the knob. The latch can be installed on either the inner or the outer surface of door.

Gas-Powered Lift Trucks

The Baker-Raulang Co., Dept. WP, 1230 W. 80th St., Cleveland, Ohio, has added two new gas-powered fork lift industrial trucks to its line. The FD 50 and FD 60 are designed to speed the handling of materials in manufacturing plants, warehouses, and rugged outdoor terrain. According to the manufacturer, the FD 50 rated for

"OLIVER" is built right to assure smoothest planing

Gives you 40 feet a minute of level, low-cost surfacing

This popular "Oliver" Surfacer takes stock up to 24" wide, 8" thick. It feeds stock at any rate from 18' to 40' a minute, at the turn of a dial. Controls are centrally located for operator's convenience. Has built-in jointing and grinding rigs. Precision built to insure rigidity and permanent alignment of moving parts.

Write for Bulletin No. 299-D

OLIVER MACHINERY COMPANY
Established 1890 **GRAND RAPIDS 2, MICH.**

To Get Finer Plywood, Specify . . .

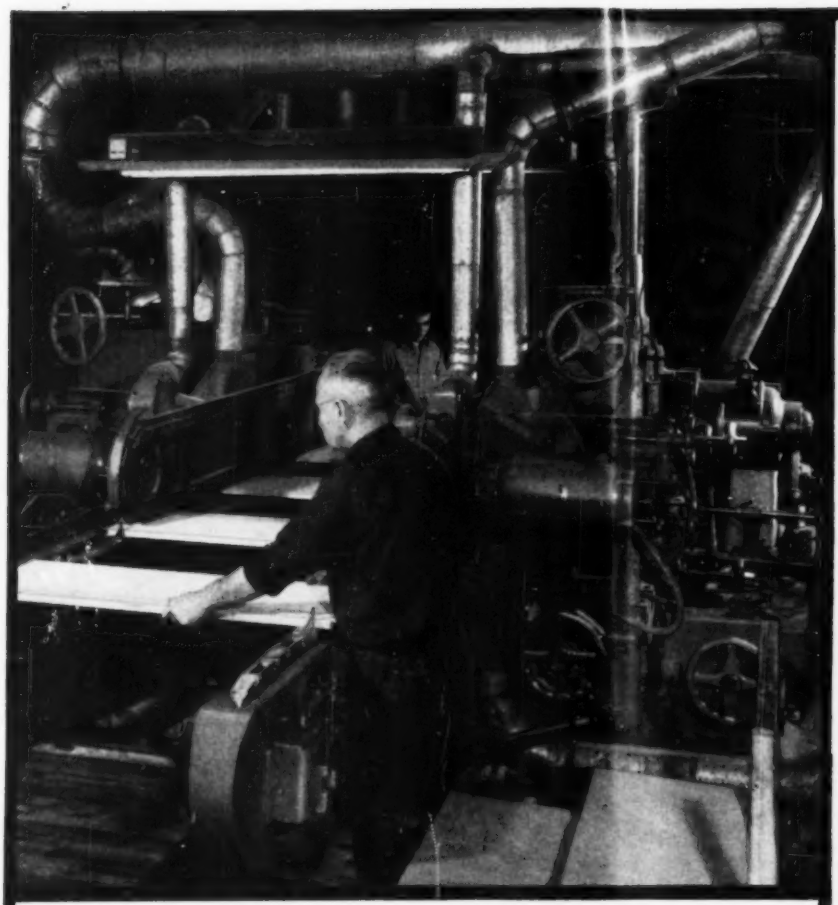
Permawood

Our 35 years successful experience, a top-grade management-skilled worker team, and use of the latest-type machinery and methods, has kept the quality of our product far above that of the average plywood. We offer it at competitive prices; and you're getting a finer value when you specify PERMAWOOD Hardwood Plywood.

A Hot-Plate Press in closed position. Skilled workmen exercise every care to insure that **PERMAWOOD Hardwood Plywood** is properly glued.

PERMAWOOD panels are made in Standard Sizes. Thicknesses in All Veneer construction from 3/20" to 1 1/16", and Lumber Core construction in 3/4" and 13/16". Widths from 30" to 48"; lengths from 36" to 96". Write for latest stock lists and prices.

DARLINGTON VENEER CO., INC.
Established in 1918
DARLINGTON, SOUTH CAROLINA



"WOODWORKING PLANT IN ITSELF"

Greenlee Double-End Tenoner cuts costs fast

Many manufacturers have increased production, refined the quality of their products, and reduced unit costs substantially with a GREENLEE No. 545 Double-End Tenoner. This versatile machine performs many cost-cutting operations. It holds exact sizes over long production runs, thus eliminating costly "hand fitting" methods. Often referred to as "a woodworking plant in itself," it takes the place of several single-purpose machines and results in a highly streamlined, efficient production flow that produces finer products . . . in less time . . . at less cost . . . to meet today's market demands.

Write for Bulletin No. 545 **GREENLEE BROS. & CO.**
1932 Twentieth Avenue, Rockford, Illinois

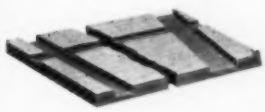
TYPICAL EXAMPLES OF WORK PRODUCED ON THE GREENLEE NO. 545 DOUBLE-END TENONER

Dadoing, scoring, dovetailing, notching, relishing, sill-horning, and irregular shaping are among the 15 separate operations performed by this machine. Shown below are a few examples:

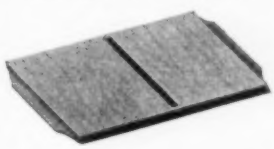
Mitering furniture rails

Dovetail jointing furniture rails

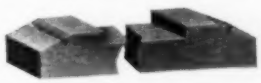
Cutting lock corner joints



Dadoing window frame stiles



Blind dadoing and relishing panels

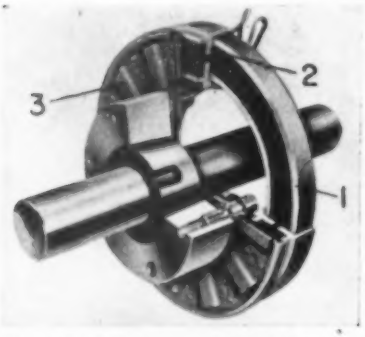


Beveling and cutting clamp nail grooves

Sizing, tenoning, and coping door rails

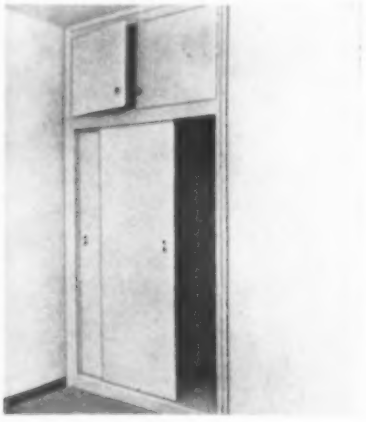
MACHINERY & TOOLS
GREENLEE

loads up to 5,000 lb. and the FD 60 rated for loads up to 6,000 lb., can do a day's work on less than 5 gal. of gas.



Electric Brakes and Clutches

A complete line of electric brakes and clutches has been put on the market by Warner Electric Brake & Clutch Co., Dept. WP, Beloit, Wis. The new brake is compact and contains three main parts—field, armature, and the face which can be replaced. The companion electric clutch operates on a stationary field principle, with current induced into a rotating coil. At present, both the brakes and the clutches are being manufactured in the torque range of 8 lb. in to 700 lb. ft.



Laminated Panels

Panelply, a lamination of Presdwood panels, has been designed by Masonite Corp., Dept. WP, 111 N. Wabash Ave., Chicago, Ill., especially for cabinet doors, either hinged or sliding, and as counter top bases for plastic laminates. It is available in 4 by 8 ft. lengths and in thicknesses of ½ and ¾ in.

Synthetic Upholstery Covering

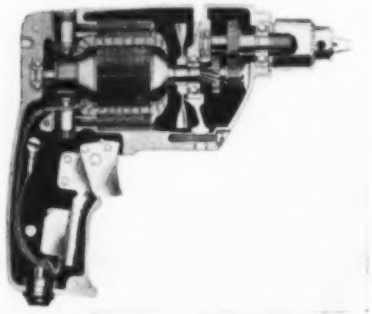
A new material combining beauty, high luster and the smooth feel of an all-plastic film but possessing the durability and tear resistance of a fabric supported plastic is identified as Tolex 24900 Excel by Textileather division of the General Tire & Rubber Co., Dept. WP, Toledo, Ohio. The product has an all synthetic fabric base material supporting the special formulated plastic coating and is manufactured in 15 colors.

Dimensional Design Fabric

Horizontal strands lashed to a casual texture give dimension to Safari, manufactured by L. E. Carpenter & Co., Inc., Dept. WP, Empire State Bldg., New York City. Like other fabrics which are vinyl electronically sealed to a firm cloth backing, Safari can be applied to any flat or curved surface wtihout extra backing.

Bulletin Boards

Industrial Products Co., Dept. WP, 2820 N. Fourth St., Philadelphia, Pa., has announced a line of bulletin boards, constructed of Philippine mahogany and finished in high gloss lacquer. With hinged glass door, the board is designed to be used singly or several may be mounted side by side.



Heavy Duty Electric Drills

Two heavy duty electric drills have been announced by the manufacturer, Porter-Cable Machine Co., Dept. WP, 34 Exchange St., Syracuse, N. Y. The model 515 (shown here) is a ¼ in. drill with a three-ampere motor under its housing of die-cast aluminum. A gear type ¼ in. chuck rotates at 1,800 r.p.m. Model 516 is a ½ in. drill with a six ampere motor.

LANE CHIPBOARD UNIT

Continued from Page 21

this new development as revolutionary for the furniture industry. Use of this equipment is seen as a practical method of extending the nation's timber supply while at the same time reducing the cost of furniture.

Some Machines Used by Lane Co. in Making Chipboard

Chipcore Unit.....Adamson-United Co.
Hog.....Jeffrey Mfg. Co.
Edge Gluing Press.....Electronic Heating Corp.
High-Speed Planers....Baxter D. Whitney & Son

Tagging Law Manual Released

A completely revised State Tagging Law Manual for upholsterers has been issued by the National Association of Furniture Manufacturers, 666 Lake Shore Dr., Chicago. The reference book lists the inspection stamp, annual license fee and registration fee requirements of each state, and whether states require manufacturers registration number on tags and if sample tags should be submitted to states for approval.

Wood Puzzlers

This department is designed to help find answers to your production and sales problems. Let us know what information you need. Other readers may be able to help you.—*The Editors.*

151—Mahogany Rippings

We have a full carload, possibly more, of mahogany rippings, 4/4 through 8/4, heavy to 4/4, in widths from 1 to 3 in. We are anxious to dispose of these. (La.)

152—Soft, Workable Wood

We manufacture products of the what-not shelf variety and are presently using ¼ in. fir plywood as the material. Could you inform us of some sources that could provide us with some types of soft, workable wood of the same thickness and with a comparable price feature also. (Mich.)

153—Appalachian Oak

We would like to contact one or more manufacturers who utilize in the production of their product or products 8/4 #1 and #2 common air-dried Appalachian oak, mixed red and white. (N. C.)

Make your wood waste pile look like this...with RESINOX 743

Why *spend* money hauling off wood waste? By converting scrap into fine wood articles, many companies *make* money by molding highly salable and profitable products . . . hamper tops, toys, chair backs, knobs and wheels . . . with RESINOX 743, Monsanto's phenolic resin.

RESINOX 743 gives you the very best in production economies and molding results. Because of extra-high initial flow and rapid cure, it knits wood particles together with exceptional uniform strength. It provides resistance to warping and swelling, moisture, mildew and rot. It gives the handsome appearance of hard wood with the screw-holding power of soft wood. It imparts a highly attractive, semi-gloss finish which has all the richness and charm of natural wood. Write today for information on how to turn scrap into cash with RESINOX 743.

MONSANTO

SERVING INDUSTRY... WHICH SERVES MANKIND

World's leading supplier of adhesives to the woodworking industry

In addition to RESINOX 743, Monsanto makes a complete list of phenolic, melamine and urea resins for various molded wood processes and applications. For complete information on molding granulated wood, as well as for all your adhesives, write: MONSANTO CHEMICAL COMPANY, Plastics Division, Room 5205, Springfield 2, Mass. (Monsanto in Canada: Montreal)

Resinox: Reg. U. S. Pat. Off.

NEW CATALOGS and LITERATURE

Humidity Control Book

A new edition of "Humidity Control in the Woodworking Industry" has been released by the Bahnson Co., Dept. WP, Winston-Salem, N. C. Charts are used to illustrate the need for the control of moisture in storage of kiln-dried lumber, veneer manufacture, furniture manufacture, flooring and internal millwork, dimension stock and assembly rooms, plywood, gluing, machine rooms, finishing and drying, and storage sheds. Types of humidifiers recommended for these various applications are discussed.

Fastenings Catalog

A new complete catalog of fastenings made by the Blake & Johnson Co., Dept. WP, Waterville, Conn. The 102-page book gives complete listings of sizes and prices of the various products. Among the tab index subjects are: machine screws; machine screw nuts; stove bolts; twin fast wood screws; type A-B-C tapping screws; Phillips products; special wire forms; chaplets; and automatic screw machine products.

Fabricated Dimension Booklet

Morgan Mfg. Co., Inc., Dept. WP, Black Mountain, N. C., has issued a bulletin describing its plant and its specialty, completely fabricated dimension. Photos show typical fully machined and sanded material, and the finished products made from it. The final portion of the book is devoted to action photos of manufacturing activities at the Morgan plant.

Hydraulic Drive Bulletin

Berry Hydraulic Drives for sawmill carriages are detailed in a new 8-page bulletin published by the Berry Division of Oliver Iron and Steel Corp., Dept. WP, Oliver Building, Pittsburgh, Penna. A feature of the bulletin is the Berry Drive Selector which gives the proper drive number for various carriage weights, strokes and lines per minute. Berry drives are available as complete packaged units, including a pump, motor, cooler and other components.

Clipper Brochure

Merritt Solem, Division of Solem Machine Co., Dept. WP, 118 S. Niagara St., Lockport, N. Y., offers a new brochure on their line of clippers. Included are specifications and dimensions, plus a general description of operating parts and construction features on heavy medium and light duty clippers. Of special interest is a portion of brochure C-54 devoted to a general outline of special safety control arrangements for both one and two man operation.

End Printer Brochure

The Irvington #61 automatic random length end printer is illustrated and described in a new four-page, two-color brochure released by Irvington Machine Works, Dept. WP, 1808 N.E. 7th Ave., Portland, Ore., or 3 Colfax N.E., Grand Rapids, Mich. Also included are five different installations for single end or double end random length printing of a manufacturer's name on every piece of lumber leaving his plant. The Irvington #61 is tailored to the normal flow of lumber through a mill.

Clamp Catalog

A 32-page catalog showing the Jorgensen and Pony line of clamps is now available from Adjustable Clamp Co., Dept. WP, 417 N. Ashland Ave., Chicago. The colorful book lists and describes over 40 styles of "C" clamps, bar clamps, handscrews, press clamps, and similar tools. Jorgensen hinged clamps, as well as the steel track in which they may be mounted for sideways adjustment are given prominent showing.

Preservative Newsletter

Chapman Chemical Co., Dept. WP, 707 Dermon Bldg., Memphis, Tenn., has issued a revised newsletter on the behavior of pentachlorophenol-petroleum solutions with respect to concentration changes under treating plant conditions. The information contained is intended to be of help to wood-treating plants.

Shuttle-Type Press Folder

Electronic Heating Corp., Dept. WP, 66 Needham St., Newton Highlands, Mass., has issued a two-color folder on its high frequency shuttle type panel-on-frame press. Layouts describe the flow of work through the machine. All specifications and dimensions are included in the literature.

Adhesive Booklet

Typical starting formulations, properties, and methods of application of Thiokol liquid polymer-liquid epoxy resin adhesives are described in a new 16-page booklet issued by the Thiokol Chemical Corp., Dept. WP, 780 N. Clinton Ave., Trenton, N. J. The adhesive formulations used on wood and other materials are based on combinations of Thiokol LP-3 with liquid epoxy resins manufactured by Borden Chemical Division, Shell Chemical Co., Bakelite Co. and Ciba Co.

Space Heater Brochure

Brochure of engineering Case Studies, recently released by Dravo Corp., Dept. WP, Dravo Building, Pittsburgh, Pa., describes a variety of successful applications of conventional warm air space heaters to the job of industrial process drying.

Featuring installations for curing rubber, and drying ceramic, paper, lumber and woven products, the studies explain the methods followed in applying the heaters to different types of drying systems. This information, together with listed benefits derived at each plant, provides a wealth of useful data on the subject of process drying.

Resin Manufacture Film

"A New World of Chemistry," a film produced by Reichhold Chemicals, Inc., Dept. WP, 525 N. Broadway, White Plains, N. Y., depicts in dramatic terms the manufacture of synthetic resins. The 27-minute film is devoid of commercial announcements but shows the manufacturing processes whereby chemical reactions create the resins which are a new form of mat-

WOODICTIONARY

SOUND KNOT

A knot which is solid across its face, at least as hard as the surrounding wood, and shows no indications of decay.

ter. Resins which have made possible the expansion of the plywood industry are included.

Machine Mounting Book

A recommendation book for customers has been distributed by the Barry Corp., Dept. WP, Watertown, Mass., manufacturers of Leveling Barrymounts. Based on research and on knowledge of the machine mounting field gained since the introduction of Leveling Barrymounts to the market last fall, Barry's new recommendation book enables users to determine quickly the proper mounts for most types of grinders, lathes and milling machines.

Industrial Truck Brochure

An eight-page brochure published by the Yale & Towne Mfg. Co., Dept. WP, Philadelphia 15, Pa., describes and pictures the new G-52 series of gasoline fork lift trucks. Among the features highlighted by use of cutaway photographs and diagrams are fluid coupling which has been built into the fly wheel as an integral part of the unit to reduce overhand and overall length, the specially designed muffler that produces a cooler running engine, and hypoid gear drive with four pinion differential.

Diesel Engine Booklet

Caterpillar Tractor Co., Dept. WP, Peoria, Ill., has issued a 16-page booklet which contains job descriptions and numerous photographs of some of the many applications where torque-converter-equipped diesel engines have proven themselves profitable. Included in the descriptions of installations are logging and lumbering scenes.

Book on Gluing Wood

A book on gluing wood, written by Thomas D. Perry, is now being marketed by Wood & Wood Products, 139 N. Clark, Chicago, Ill., at $1.50 per copy, with discounts allowed for quantity orders. "150 Gluing Questions and Answers" will be fine reference material for everyone who has anything to do with gluing in a wood-producing or wood-converting operation. A complete alphabetical index covers the subjects included in the 14 chapters.

Magnetic Power Latch Leaflet

A two-color catalog sheet illustrating and completely describing a new magnetic power latch for heavier doors is now available from Heppner Sales Co., Dept. WP, Round Lake, Ill. Illustrated are eight home and industrial uses, the patented self-aligning installation, the unique pivot-cushion action and the latch itself.

Overhead Crane Brochure

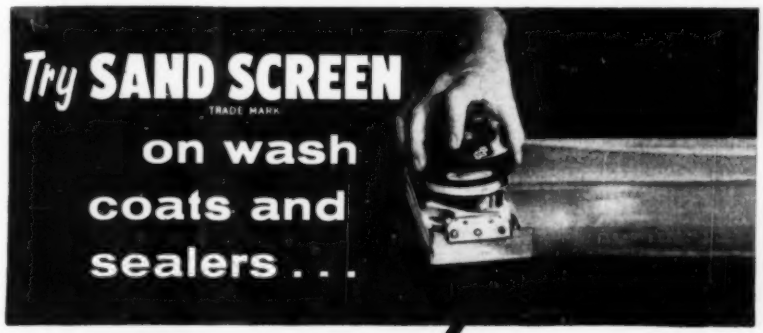
A new six-page bulletin describing a new line of overhead bridge cranes has been released by the Michigan Crane & Conveyor Corp., Dept. WP, 115 N. McKinstry Ave., Detroit, Mich. Covering single girder, double girder and box girder cranes, the bulletin contains general specifications and application data.

Transmission Belt Bulletin

Poly-V drive is described in a colorful new brochure 6638 issued by the Raybestos - Manhattan, Manhattan Rubber Division, Dept. WP, Passiac, N. J., developers of the new belt and V-grooved sheave for power transmission. Design characteristics of the single, endless belt with molded lengthwise ribs are explained in two-color line-drawings.

Fabric Pattern Book

The print patterns and grains of Textileather's plastic coated fabrics have been catalogued into a new roller grain and pattern book. It is the first of a new series showing the array of finishes manufactured by the Textileather division of the General Tire & Rubber Co., Dept. WP, Toledo 3,



SAND SCREEN the new open-mesh abrasive cloth by CARBORUNDUM that lets the removed material flow right through—often outlasts conventional abrasives by *as much as 7 to 15 times.* You use *both sides* of SAND SCREEN, for extra "mileage." Use it wet or dry . . . by hand or machine. Test it in your shop for sanding wood-in-the-white, wash coats and sealers. Test it—and you'll be a permanent user!

TRY SAND SCREEN TODAY! Call your CARBORUNDUM Distributor or Salesman for a free demonstration on your own sanding job.

Send for FREE SAMPLE and folder!

THE CARBORUNDUM COMPANY, Dept. WP 82-416
Niagara Falls, New York
Send SAND SCREEN sample and literature to:

NAME _____ TITLE _____
COMPANY _____
STREET AND NUMBER _____
CITY _____ ZONE _____ STATE _____

CARBORUNDUM
REGISTERED TRADE MARK
. . . continually putting more sense in your abrasive dollar

82-416

Ohio. The effects catalogued in the book can be used in combination to achieve an end result in individuality.

Plywood Container Brochure

Shipping with plywood containers is covered in a brochure issued by Atlas Plywood Corp., Dept. WP, Boston 16, Mass. In addition to pictorial descriptions of the manufacture of Atlas Plywood, the brochure contains photo recommendations for shipping using plywood containers. Testing methods are also contained in the booklet.

Polyester Film Booklet

A 20-page booklet has been issued on Mylar polyester film, a new product of E. I. Du Pont De Nemours & Co., Dept. WP, Wilmington, Del. Because of its combination of physical, electrical, chemical and thermal properties, Mylar's applications are said to include: 1. Metalized surfacing, by depositing a thin layer of aluminum on Mylar and laminating to a fabric backing for decorative upholstery. 2. Paneling of television cabinets, in which the film is laminated to other materials. 3. Finishing low-cost furniture with quality designs by printing wood grains on Mylar and then laminating to plywood; because the film is reverse printed, tables and other surfaces have a subtle sheen, impervious to moisture or alcoholic beverages, and resistant to scratching.

To explain the significance of the new "genuine hardwoods" seal being used by furniture, piano, television and other manufacturers, a three-color educational leaflet has been published by the Fine Hardwoods Association, 666 Lake Shore Drive, Chicago, Ill. The seal was originally created for quality television manufacturers to meet the problems of imitation wood cabinets and its use was recently authorized for manufacturers of other hardwood products that meet the required qualifications for the seal. Inquiries for permission to use the seal should be directed to the association office

INCREASING MILL OUTPUT

Continued from Page 25

all decisions based on the *appearance* of the log. Dogging and setting are best done by machinery rather than men—and again the proof of this is that there are an ever increasing number of mills with no one on the carriages.

4. Off-Bearing: Does your off-bearer make decisions based on the *appearance* of the slab, board, or cant as to where it will go in the mill: edger, resaw, or gang? If so, you need him. If not, it would pay to look into various automatic off-bearing devices that have been developed recently. If the off-bearer is separating lumber for the gang, resaw or edger, then he is making a decision based on *appearance.*

For instance, he may send a 12x12 cant to the gang, a thick slab to the resaw, a thin board with wane on one edge to the edger, a square edged 1x12 board to the green chain. This off-bearer is performing a valuable service.

But if the off-bearer is handling slabs so they fall flat side down on the off-bearer rolls, or disposing of short slabs and slivers, a machine or rearrangement of the mill can do the job. A belt takes care of slabs falling. Automatic off-bearers are used in larger mills. In smaller mills a properly placed disposal pit between the sawhusk and belt conveyor takes care of short slabs and slivers.

5. Other Machines: How many men do you have feeding your edger, resaw, gang or trimmer? If there is more than one, find out if only one of them is making the decision based on *appearance.* If so, look into substituting a machine for the others. Do you have an outfeed crew on a machine? Can their decision be centralized?

For instance, one excellent mill design channels a good deal of slab and all boards and edgings from the headrig, resaw and edger onto one chain going to the trimmer. The trimmerman has a selective drop-off into a waste conveyor and, selecting by *appearance,* he gets rid of the slab, edgings and reject quality boards. This achieves a savings in the outfeed crew of the edger an dresaw.

You can go through your mill in a skeptical frame of mind and look with a jaundiced eye at each man's job until you are convinced that it is essential or that it would require too large an investment to do the job by machine.

The problems of grade recovery and efficient utilization are most important in all mills, but even these items pale before the problem of productivity—production per man per shift. The basic function of the mill survey you will make is to determine a "break-even" point. For mill purposes this may be defined as the productivity necessary for the mill to pay expenses and insure a reasonable profit, assuming the following conditions:

1. That the grade recovery from the logs in the mill is of the average low value, such as would be realized by sawing entirely for high production and not for grade.
2. That the board footage of lumber recovered from the log averages only what would be realized if a recovery program were not in effect.

While it takes a good deal of experience and judgment to analyze a mill from this sandpoint, it is the only solid ground on which the average mill operator can base his decisions. Productivity is merely a matter of mechanization; any mill can increase its mechanical efficiency.

But profits from high grade recovery and log utilization alone are not items over which the operator has full control and on which he can depend for the long pull. The new logging show may be enough lower grade so that the grade recovery, despite all efforts, does not come up to previous returns; the market may fold up entirely for a by-product that increased utilization a good deal—the wood lath situation is a good example.

Two lath mills with which I am familiar failed recently when metals made an inroad into the lath market. While there are, of course, many exceptions, in general a mill that depends for its profit entirely on "overrun" and good grade recovery is a marginal operation.

The sawmill analysis must therefore separate the wheat from the chaff, and determine the solidity of the ground on which the operation rests: What cut must this mill produce on the basis of simple productivity in order to operate profitably?

The information and suggestions in this article are an effort to help the sawmill man look at his operation from a new viewpoint. With labor costs high and stumpage costs even higher, in order to compete with metals and ments, which have a history of engi- streamline his operation! He cannot compete against modern production methods, while in his sawmill 10 men may be used to separate boards to raise the mill average lumber one grade.

The mill operator must become a production manager as well and insist on the highest efficiency and productivity of which his mill is capable.

STANFORD STUDY

Continued from Page 28

sion of 132% during the next 20 years. The big future for hardboard in all fields, including construction and the "do it yourself" trade, is reflected in the researchers' estimates indicating that the hardboard market will more than triple by 1975.

In furniture and fixtures, where a growth of 140% is expected, hardboard is being used to an increasing degree in drawers, dresser backs, under plastic surfaces in dinette sets, and for inexpensive table tops for hard wear.

In other manufactured products hardboard is also gaining in popularity among makers of motor vehicle bodies, toys and play equipment, electrical panels, aircraft die stock, and many other items. Its usage, in fact, is expected to increase more rapidly than the growth of many of the user industries themselves.

• • •

The fourth in this series of interpretative reports will bring to readers of Wood & Wood Products a roundup of the pertinent findings and projections of the Stanford researchers on sawmill waste utilization, pulpwood, log and bolt requirements for the next 20 years. Watch for this report in January! — *The Editors.*

CAMP'S 400 FT. CONVEYOR

Continued from Page 31

two saws for maximum width of each board. This remote control connected by shaft to the edger thus enables the operator to do his own feeding of the machine. Further, the boards are so centered in their passage through the edger that strips cut from the boards drop automatically onto the conveyor chain as they leave the machine, doing away with the strip catcher formerly required at this station.

Over in the Camp flooring plant, an ingenious method of cross-feeding from one end matcher to the other has been devised under the direction of Foreman C. L. Lewis. A chain feed provides the power to move the flooring in one direction, and at the same time a series of power rollers propels it laterally.

In order to hasten the lateral transfer of short pieces across the 16 ft. expanse, maintenance men have added an air jet alongside the first matcher. Timed to operate by a cam valve working in conjunction with the end matcher chain, the jet automatically hits each length of flooring as it leaves the matcher and speeds it on its way. Eventually Mr. Lewis hopes to have the transfer so perfected that he can do away with the operator now feeding the second matcher.

Use of carbide-tipped saws on the end matchers, and also on two ripsaws in the planing mill, has proved a great time and money saver. Seth Atkinson, head filer, was responsible for suggesting a slight alteration in the teeth of these saws so that carbide tips could be added. Mr. Lewis says he now changes saws on the end matchers once in four to six weeks, compared to three or four changes each week previously.

In the planing mill, Foreman J. C. Tomlin pointed out that the carbide-tipped saws in use on his ripsaws had seen nearly 250 hours of service. He used to change them twice a day.

"If you want to see more improvements and new ways of doing things around a sawmill, come back every three to six months," advised R. H. Rawls, machinist who guided your Wood & Wood Products reporter around part of the plant. "I've been here 16 years, and there's never been a time we haven't been working on some new wrinkle to speed things up or cut down on labor or costs."

INCREASE PRODUCTION as much as 100%

Lift Installed at	Production Increase
Double Surfacers	40% to 75%
Rip Saws	30% to 60%
Cut-Off Saws	20% to 50%
Matchers and Edgers	20% to 40%
Stacking Kiln Trucks	50% to 100%
Box Car Loading Dock	25% to 50%

INSTALL LEITELT LUMBER LIFTS

A glance at the above figures, FURNISHED BY USERS, proves how Leitelt Lumber Lifts increase production.

You can get these profitable increases in production and save the labor costs of one or two men with a Leitelt Lumber Lift in your plant or yard. Leitelt Lumber Lifts are built in a full range of capacities for handling loads from three to thirty tons easily and safely.

Let Leitelt engineers solve your production problems. Write Today.

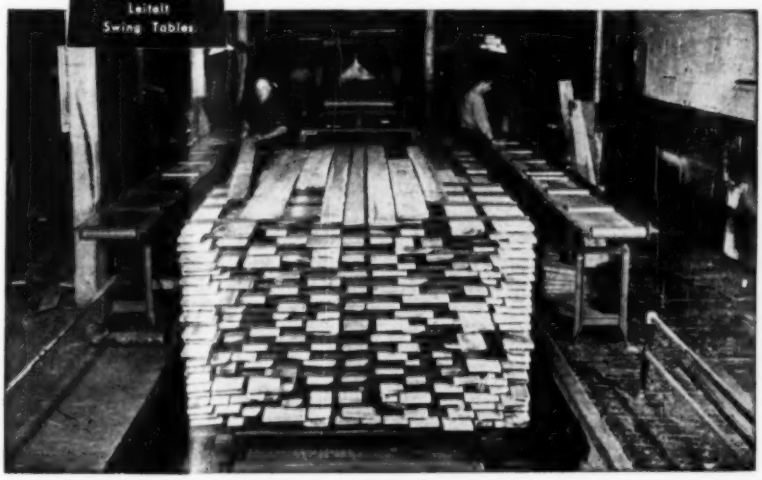
LEITELT IRON WORKS

"Pioneer Builders of Lumber Lift Equipment"

335 Mill St., Grand Rapids 2, Michigan

Also Manufacturers of Power Transfer Cars Car Pullers Power Driven Turntables Subcars and Leitelt Swing Tables

A typical modern installation showing a Leitelt Lumber Lift feeding two cut-off saws. This is how one of the largest table manufacturing plants in the country has increased their production at the vital point where material starts to flow through the plant.



NAMES and EVENTS

Other re-elected officers of the Architectural Woodwork Institute were congratulated by President Charles A. Rinehimer, Rinehimer Bros. Mfg. Co., Elgin, Ill., at the group's second annual convention held Oct. 15-16 in Chicago. From the left are: Elmer Root, Standard Mfg. Co., Appleton, Wis., treasurer; C. W. Fischer, Hallack & Howard Co., Denver, Colo., 2nd vice-president; Mr. Rinehimer; Claude Twiellenmeier, Crescent Planing Mill Co., St. Louis, Mo., 1st vice-president; William L. Otis, Columbia Lumber & Mfg. Co., Columbia, S. C., 3rd vice-president. In a stimulating report on business conditions in the industry, Mr. Twiellenmeier reviewed the Institute's program of development of technical brochures and building architects' mailing lists. Attending members unanimously voted to continue the work of AWI as it has been conducted in the past year, following a discussion on the importance of maintaining close personal contact with architects

Northeast FPRS Discusses Trends

"What's News in Wood" was the theme of the fall meeting of the Northeast Section, Forest Products Research Society, held in New York City, Nov. 4-5. The four sessions were devoted to: What Works with Wood; What's New in Wood Processing; What's being Done with Wood; and Wood Problems, covered by discussion groups.

Subjects and speakers at technical sessions included: Particle Board, by Robert A. Caughey, Souhegan Mills, Wilton, N. H.; New Aspects of Non-Destructive Testing, by Ben A. Jaynes, Yale School of Forestry, New Haven, Conn.; Quality Control of Veneers, by David E. Wilson III, Owens-Illinois Plywood, Inc., Hancock, Vt.; Problems in Fabricating Helicopter Rotor Blades, by Ken L. West, West Fabricating Laboratories, Annandale, N. J.; Laminated Cross-Arms, by O. A. Hanna, Bell Telephone Laboratories, Murray Hill, N. J.; New Developments in Wood Preservation, by Ralph Mann, American Wood Preservers' Association, New York, N. Y.; Alkali and Acid Resistance Impregnated Wood, by Dr. Irving S. Goldstein, Koppers Co., Pittsburgh, Pa.; Chem Dry Process (for finish coatings) by H. L. Barnebey, Chemical Processes, Pittsburgh, Pa.; Phenol-Formaldehyde Wood Coating Resins, by Max Hilrich, Marbellette Corp., Long Island City, N. Y.; Automatic Control Techniques in Processing Wood Products, by Lloyd E. Slater, Business Editor, Control Engineering Magazine, New York, N. Y.; Application of Cutter Speeds, by Chester L. Babcock, Babcock Machinery Co., New York, N. Y.; Custom Millwork, by M. A. Sellner, Weyerhaeuser Sales Co., Baltimore, Md.; Study of Cross Sections of Finished Furniture Panels, by R. L. Selby, E. I. duPont de Nemours and Co., Philadelphia, Pa.

AFPI Re-elects Carpenter

Leonard G. Carpenter, president of McCloud Lumber Co., Minneapolis, Minn., was re-elected president of American Forest Products Industries at the organization's annual board of trustees meeting recently. Other officers elected by the forest industries group include: William Swindells, Willamette Valley Lumber Co., Portland, Ore., and W. J. Bailey, West Virginia Pulp & Paper Co., New York City, vice-presidents; P. H. Glatfelter, P. H. Glatfelter Co., Spring Grove, Penna., treasurer; and William B. Greeley, Seattle, chairman of the board.

Newly elected members of the board of trustees include: J. P. Weyerhaeuser, Jr., Weyerhaeuser Timber Co., Tacoma, Wash., and James D. Bronson, Cascade Lumber Co., Yakima, Wash. Others re-elected to the board for three-year terms are: W. B. Greeley; John H. Hinman, International Paper Co., New York City; James L. Madden, Scott Paper Co., Boston; N. F. McGowin, W. T. Smith Lumber Co., Chapman, Ala.; John B. Veach, Hardwood Corp. of America, Ashville, N. C.; and Vertrees Young, Gaylord Container Corp., Bogalusa, La. Sydney Ferguson, Mead Corp., New York City, was re-elected for a one-year term.

Dry Kiln Efficiency Studied

"Kiln Efficiency Through Proper Construction, Venting and Scheduling" was the key topic for a panel discussion at the fall dry kiln meeting in Grand Rapids, Nov. 3. The all-day session at the Rowe Hotel was sponsored by the Grand Rapids Furniture Mfgrs. Association. Appearing on the program were: Fred E. Dickenson, Wood Technology Department, University of Mich.; Richard H. Elliott, Standard Dry Kiln Co., Indianapolis, Ind.; Raymond C. Rietz, Division of Timber Physics, Forest Products Laboratory, Madison, Wis.; Robert H. Brinkmeyer, Electric Wheel Co., Quincy, Ill.

Foresters' Awards to Hall, Gill

E. L. Demmon, Ashville, N. C., president of the Society of American Foresters, presented two of the forestry profession's highest awards at the Society's dinner, held in connection with its 54th annual meeting in the Schroeder Hotel, Milwaukee, Wis., Oct. 27. To William L. Hall, Hot Springs, Ark., was presented the Gifford Pinchot medal. To Tom Gill, Washington, D. C., was presented the Sir William Schlich Memorial Medal.

Logging Show Features Sawmills

Four portable sawmills were only one of the many attractions at the Logging, Sawmilling and Forestry Show held on the John Hauberg farm near Port Byron, Ill., recently. Trees previously marked for harvest were cut from the surrounding logging chances, so the equipment used through the entire operation from tree to lumber was given a good workout. Chain saws, log loaders, forestry equipment, tractors, engines and the sawmills were included in the exhibits, which were

ONE OF FOUR PORTABLE SAWMILLS at Illinois Forestry Show

viewed by approximately 4,300 persons.

Sash & Door Men Elect Kimball

C. M. Kimball

At the 13th annual meeting of the Northern Sash & Door Jobbers Association held Oct. 25-27 in Detroit, Mich., Clarence M. Kimball of Kimball & Russell, Inc., Detroit, was elected president. He served as vice-president in 1954, and succeeds Wm. C. A. Costello, J. R. Quigley Co., Gloucester City, N. J. Other officers elected include: vice-president—Phil S. Malinger, Morgan Sash & Door Co., Chicago; treasurer—S. D. Griffeth, Midwest Jobbers, Inc., Chicago; secretary—Carl W. Nagle, Chicago; directors—P. S. Hill, Harbor Plywood Corp., Chicago, Ralph A. Pauley, Dayton Sash & Door Co., Dayton, Ohio, and Charles E. Rogers, Adams-Rogers Co., Indianapolis, Ind. The association adopted a new insignia which will be made available to member companies for use with mailings and publicity material, letters and other media.

Forestry Field Day in Illinois

Seven years of woodland management on a 24-acre tract of "good" farm timber at the Kaskaskia Experimental Forest in Hardin county, Ill., have yielded $800 in woodland products without decreasing the total volume of sawtimber in the stand. During the same period the annual per-acre timber growth has increased from 175 to 257 bd. ft. Management practices giving these results were observed Oct. 13 by persons attending the second annual Farm Forestry Field Day at the Experimental Forest.

Packaging Men Meet in Montreal

Over 300 businessmen attended the 7th Quebec Regional Conference of the Packaging Association of Canada in Montreal at the Sheraton-Mount Royal Hotel on Oct. 18. At the same time the Eastern Division of the Technical Institute of the association made its debut with a full afternoon of five concurrent technical packaging problem clinics.

Glue Course in January

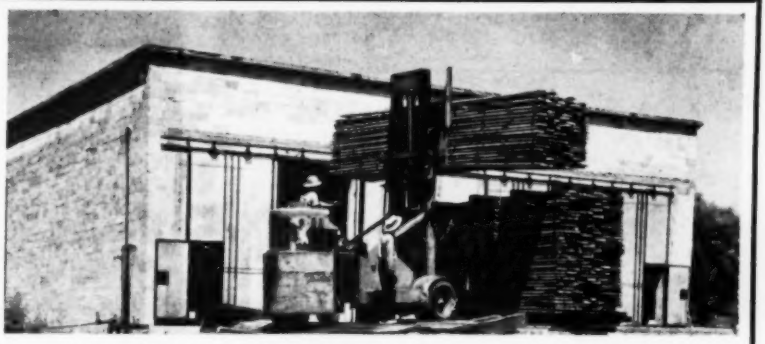
The short course in gluing of the State University of New York College of Forestry will be held Jan. 24-29 in Syracuse, covering such topics as principles of gluing, preparation of stock for gluing, wood adhesives and their characteristics, hot and cold press gluing techniques, radio frequency gluing, strength tests of glued joints, and gluing defects and their causes.

Garratt Heads Ohio Valley FPRS

R. M. Garratt, Gamble Brothers, Inc., Louisville, Ky., was elected chairman of the Ohio Valley section, Forest Products Research Society, at the fall meeting held Oct. 14-15 at Louisville. He succeeds Carl Trinkle of Baldwin Piano Co., Cincinnati, Ohio. Among technical papers presented, V. E. Noltemeyer, vice-president and secretary of Gamble Brothers discussed "A System for Costing Furniture Dimension." A. S. Holden, executive engineer, Coe Mfg. Co., Painesville, Ohio, spoke on "Continuous Electronic Moisture Detection," illustrating his talk with samples of veneer and lumber passing through continuous moisture detector developed originally by Lauck's Laboratories, Seattle. Using films of actual prefabrication and erection, Richard H. Elliott of Standard Dry Kiln Co., Indianapolis, Ind., discussed "Prefabricated Dry Kilns."

Log Transportation Studied

"Log Transportation" with special emphasis on roads was the major topic of the 45th Session of the Pacific Logging Congress held Oct. 25 in Port-



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Above are committee chairmen planning the June 20-23, Earl T. McCarthy, group meals, banquet, entertainment; Mrs. 1955, Seattle convention of the Forest Products Research Society. Seated, left to right R. D. Pauley, finance; Fred R. Armbruster, arrangements; John Ritchie, general chairman; Earl T. McCarthy, ladies program. Standing: John Jefferline, information, hospitality; Bob Williams, hotels, housing; Perry Culp, Jr., publicity; Neale Warne, meeting equipment, supplies; Bill Hempelmann, transportation, boat trip. Not present: Dr. O. Harry Schrader, Jr., Paul Bunyon hour; Harold R. Evans, registration, tickets; A. T. Walton, field trip.

Wood Office Furniture Institute members who provide the Institute's Certified Office Planning Service throughout the U. S. met recently to discuss the future of wood office furniture and new sales methods. Shown at the head table are, left to right: Sterling Lord, Institute president, Leopold Co.; Howard Gatewood, Institute executive secretary; Faber Birren, Institute color consultant and author; Kenneth Ripnen, Institute office layout consultant; Ben F. Avery, district engineer, General Electric Co. COPS provides office planning and advice on acoustics, scientific layout, lighting, color and decor, in addition to selling furniture

land, Ore. A. B. Hood, general manager, Ralph L. Smith Lumber Co., Anderson, Calif., discussed the pine industry's answer to forest road problems. The WASHO road test was discussed by E. V. Miller, Idaho State Highway Engineer. Other talks on roads were given by E. R. Aston, K. M. Murdock, Robert W. Olin, John S. Brandis and Larry Marshall. Safety was discussed by N. B. Giustina and A. V. Backman.

Inspection School in Spring

Basic training in the inspection and classification of hardwood lumber will be the subject of a five months' course of instruction in the John W. McClure School of the National Hardwood Lumber Association, 59 E. Van Buren St., Chicago. The vocational training school at Memphis is open to 50 students, and registrations are now being received for the 15th term which will begin February 15 and end July 14.

Photos of Logging Published

Fifty years of photographing Northwest logging scenes are recorded in book form, published by Superior Publishing Co., P.O. Box 2190, Seattle, Wash. "This Is Logging," which sells for $8.50 in the gift edition, approximates 200 pages and pictures, which are in effect a complete record of log falling, bucking and transporting, ranging from early oxen and horse logging through tractor, steel skidder and truck operations. Photos are from 8,000 negative collection of the late Darius Kinsey.

Guide for Contract Settlement

The U. S. Chamber of Commerce has issued a pamphlet to serve as a guide in government contract termination settlement. The 60-page booklet, "Contract Termination Guide," may be obtained from the Manufacture Department, U. S. Chamber of Commerce, 1615 H St., N.W., Washington, D. C., for $1 each.

Properly used, it is expected to result in a big savings in time and work for prime contractors, subcontractors, and suppliers. The guide takes the reader step by step through termination processes, including chapters on initiating termination action, steps preliminary to submission of claims, disposition of termination inventory and settlement procedures.

Pine Door Standards Published

Copies of Commercial Standard CS120-53 covering standard stock ponderosa pine doors are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 25¢. The standard provides minimum specifications, sizes, construction, grades, and tolerances.

420 Attend Crosstie Convention

The 36th annual meeting of the Railway Crosstie Association was held in Washington, D. C., Oct. 20-22 with a registration of 420 persons. Of particular interest in the program were addresses by: J. Elmer Monroe, vice-president and director of the Bureau of Railway Economics, Association of American Railroads; G. H. Echols, chief engineer, Southern Railway; Forrest Shinn, tie and timber agent, Nickel Plate Road; W. A. Swingler, assistant chief, U. S. Forest Service; V. C. Hanna, chief engineer, Terminal Railroad Association of St. Louis; D. B. Frampton, president, D. B. Frampton & Co.; R. G. May, vice-president, Association of American Railroads; E. J. Stocking, executive vice-president, Hobbs-Western; M. S. Hudson, research chemist, Taylor-Colquitt Co.; and A. E. Fivaz, program executive for exports and imports, Forest Products Division, Business and Defense Services Administration.

Armorply Sales Reorganized

Armorply division of United States Plywood Corp., Weldwood Bldg., New York City, has announced a revamped sales program and new production facilities. The sales organization, which will be housed under one roof at the manufacturing headquarters at Cattaraugus, N. Y., will be headed by Arnold S. Anderson. He had previously headed the Tekwood and Hardboard divisions of the firm. The production end of the Armorply division will continue under Stanley Eberlee.

Adhesives Plant in Illinois

National Adhesives, New York City, has purchased a tract of land at Meredosia, Ill., for the construction of a second vinyl resin plant to supplement

Plans for 1955 "WOOD Awards" as announced in Nov. WOOD & WOOD PRODUCTS were discussed by Professor A. J. Panshin, Michigan State College, chairman, FPRS education committee; J. F. Koellisch, editor and manager, WOOD & WOOD PRODUCTS; and Frank Rovsek, executive secretary of FPRS, at Madison, Wis., Oct. 27

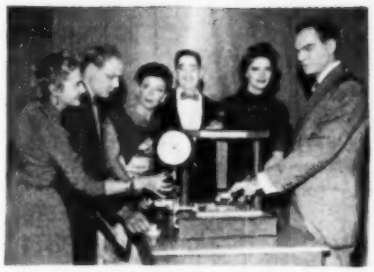
the production of their Plainfield, N. J., resin plant. Construction is to begin at once on the plant which will manufacture principally vinyl acetate polymers and copolymers which will be more accessible to western markets. National's resins are used in packaging, woodworking, paint, paper and related industries.

New California Borden Plant

A new polymerization unit, geared for initial production of 3,000,000 lb. of polyvinyl acetate emulsion a year for the West Coast paint industry, is being built by the Borden Co. adjacent to its industrial adhesives plant in Dominguez, Los Angeles County, Calif. In making the announcement, Augustine R. Marusi, president of Borden's Chemical Division, said the new unit will be completed in January.

Company Name Changed

Dierks Forests, Inc., is the new name for the Dierks Lumber & Coal Co., whose operations include a pressure treating plant at DeQueen, Ark. Originally started in 1880 as a single lumber and coal retail yard and later expanding to a line of 20, the current activities of the business include growing timber, the manufacturing of lumber and its products, and the pressure treating of posts and poles.



The panel of experts on the television show, "It's a Curious Thing," was stumped or "stuck" by the glue testing machine, which was developed for the National Association of Furniture Manufacturers by the University of Michigan Department of Wood Technology. The panel, left to right, are Kay Westphal, Wagner Schlesinger, Margaret Kirkwood, Ernie Simon, Jean Carroll, and Don MacMaster, M. C. Many furniture manufacturers use the glue testing machine to test the adhesive qualities of their gluing processes

Koppers Plant Dedicated

The new wood treating plant of Koppers Co., Inc., Horseheads, N. Y., was dedicated Oct. 14. A great portion of the 83-acre site is occupied by seasoning yards which already contain 250,000 crossties and will contain 700,000 ties at capacity.

Garage Door Plant in Progress

Now under construction is the garage door factory of Howell Mfg. Co., near Paoli, Penna. The factory and offices, planned to cost in excess of $350,000, will occupy 45,000 sq. ft., on a 6½ acre site in the Main Line Industrial Community on Philadelphia's famous Main Line.

Gallagher Heads Yates-American

J. J. GALLAGHER has been elected president of the Yates-American Machine Co., Beloit, Wis. He was formerly vice-president and succeeds E. J. Dalton who held the positions of chairman of the board and president. Mr. Dalton will continue as chairman of the board.

Albert Abendroth Dies

Albert H. Abendroth, 87, a pioneer in the northern hardwood flooring industry, passed away on Sept. 30 at Rhinelander, Wis. Mr. Abendroth had retired some years ago as president of the Robbins Flooring Co., Reed City and Ishpeming, Mich.

Personnel Changes

R. C. BROWN has been named chief of the Division of Forest Insect Research at the Northeastern Forest Ex-

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The Stratton Co.
Stratton, Me.

H. G. Winter & Son
Kingfield, Me.

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99 Hope Ave.
Worcester 3, Mass.

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F. D. Peters Co., Inc.
21-51 Foster St.
Gloversville, N. Y.

The Stratton Co.
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H. G. Winter & Son
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New York 16, N. Y.

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F. D. Peters Co., Inc
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A. F. Walker & Son Inc.
New Ipswich, N. H.

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Furniture City Dowel Co.
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Grand Rapids 3, Mich.

Grand Rapids Dowel Works
701 W. Burton St.
Grand Rapids, Mich.

Holgate Bros. Co.
Kane, Pa.

•

WOOD SPOOLS & REELS

North Waterford Spool Co.
North Waterford, Me.

H. G. Winter & Son
Kingfield, Me.

periment Station, 102 Motors Ave., Upper Darby, Penna. J. R. Hansbrough will be chief of the station's new Division of Forest Disease Research.

ROSWELL CARPENTER has been added to the staff of Reisen Hardwood Lumber Co., Union, N. J., as dry kiln superintendent and special products engineer.

WALTER F. MCCULLOCH is the new Dean of the School of Forestry, Oregon State College, Corvallis, succeeding Paul M. Dunn. Since 1945 he had headed the School of Forestry's Department of Forest Management.

G. C. Brewer

GENE C. BREWER has been elected a vice-president of U. S. Plywood Corp., New York City. He will direct the firm's 16 West Coast manufacturing operations, which include plywood and lumber production and logging in California, Oregon and Washington.

B. J. HEDGER has been appointed national sales manager of the Industrial Division of the Binks Mfg. Co., Chicago. He succeeds R. T. Hardy, who will be engaged in the spray painting equipment manufacturing activities of the company.

JOHN W. LESLIE, chairman of Signode Steel Strapping Co., Chicago, has been elected first vice-president of the Council of Profit Sharing Industries, Chicago. A. Fletcher Marsh, president of Marsh & Truman Lumber Co., Chicago, was elected treasurer.

Clay Brown

CLAY BROWN has been elected the fourth president of M & M Wood Working Co., Portland, Ore. A one-time sales manager for the company in its younger days, he has been chairman of Fortuna Sawmills, Inc., since 1945, a position he will continue to fill.

JACK WYATT has been named district manager of the Detroit, Mich., area for the Electro Dynamic Division of General Dynamics Corp., Bayonne, N. J.

ROY WHITMORE, R. Allen Ryker, and Chester Jensen have joined the staff of the Carbondale U. S. Forest Research Center at Southern Illinois University. These additions were made under a recent federal appropriation of $150,000 for expanding forestry research.

A SIMPLE COST SYSTEM

Continued from Page 35

standard basis have actual cost history which varies 300 to 400% on the same item and under conditions which should be equal.

Some variations are caused by inaccurate plant reporting, but much of it results from actual performance variations of operators from run to run of goods. The development of measured work standards for all operations (direct labor first) is essential. This is the very foundation of a standard cost system.

It is easy to see that we strongly advocate a sound monetary incentive program, which also is an integral part of a good cost system. In order that we may closely control all our direct labor, we must have *daily* information as to performance – and by individual operators or small groups. The best means I have yet seen or used for providing such information is what we call the "Daily Posting Sheet."

On this Posting Sheet are recorded each operator's name, check number, total hours, non-rated hours and lost time, standard hours, earned hours, performance percentage, premium before overtime deductions and final pay for the week. There are psychological advantages in posting this sheet daily in every department as an incentive for each operator, providing care is taken letting the operator know the purpose for this display.

People responsible for doing a job need clear and thorough instructions. Certain parts of a good cost system do a multi-purpose job in this repect. For instance, a copy of a standard purchased material sheet becomes a detailed plant specification sheet showing the exact standard materials which are to be used in a given unit by a given department (see Plant Specification and Purchased Material form No. 1005).

The mills must know the operations and operational sequence through which a part must go. The Route Sheet (form No. 1001) provides this detailed information to the plant, while it also gives the complete cost data for the part itself. Inventory control people get parts information and quantities required per unit from a copy of the Parts List (form No. 1002). This same sheet shows lumber requirements and labor cost data. Standard cost data *must* be kept current. And it is equally important that all information to operating departments be up to date. With this plan

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it is possible to "kill two birds with one stone."

In the standard cost summary (form No. 1037), as in other cases, we are omitting details since a careful study of the plan reveals its purposes and use. Although this is one of the most important objectives of the entire program, it does not compare with the importance of *controlling costs* through the application and administration of the cost system.

Obviously, the Standard Cost Summary is the basis for proper pricing of the manufactured products. And, as these summaries are reviewed, and revised as required, from month to month, or period to period, they are used for purpose of crediting the operating departments with *standard* costs.

No attempt is made here to discuss the broad responsibilities of a good accounting operation. Nor shall we endeavor to outline their specific functions related to the standard cost program. However, we do fail too often to recognize the great value of good accounting!

Through generally accepted practices, the accounting department prepares operational result reports—usually on a weekly or monthly basis. In some cases it is wise to have departmental cost control and on a weekly basis. In certain other cases it may be just as well to generalize and exercise overall cost control and have monthly reports. A careful analysis of individual situations will reveal which method should be applied.

What we all like to see from our accounting department is a concise yet complete "picture" of our results. We want to know what we *are doing* — as compared to what we *should be doing*. As they accomplish this for us in the simplest fashion – they are making a heavy contribution toward cost reduction and effective cost control.

A final word of caution: I have discussed a *simple* system—and I will always want simple systems. Then, too, we have covered this whole subject briefly. But it must be very clearly understood that an undertaking of this nature and of this importance has to be given the "expert" attention it deserves and requires from men who *know* and *understand* all these management functions. It usually pays to have the *best* engineer, the *best* accountant and the *best* of everything else, when we expect to be successful. Let's do it the *best* way with the *best* help!

When in Chicago Be Sure to Visit
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Editor's Note.—*The foregoing article is adopted from a paper presented by Mr. McNew at the recent 26th annual convention of the National Association of Furniture Manufacturers in Chicago.*

Business Served by Agency

Business, often sorely taxed and mistreated by unthinking government agencies, has one true champion and watchdog in Washington. It is the Business and Defense Service Administration, as Joel B. Ware, deputy director of its Forest Products Division, so aptly related recently.

Speaking before the Associated Third Class Mail Users, Mr. Ware told how BDSA has been successful in getting two out of three government operated defense sawmills to close. He recalled that in Feb., 1954, representatives of the lumber, plywood and wood products industries conferrred with BDSA and other Department of Commerce (of which BDSA is a part) officials, outlining eight problems of serious industry concern, seven of which received favorable action and the problem of tariff revision is still pending.

According to Mr. Ware, the Wood Products Division, one of 25 in BDSA, is composed of three major groups: (1) lumber and wood products; (2) pulp, paper, paperboard and converted paper and board products other than containers and packaging; and (3) printing, publishing and allied activities. Its business services are many and varied, but the speaker summed them up by saying "BDSA is designed to serve business, to promote the expansion of employment opportunities, and in many ways to stimulate economic growth and stability. Principal emphasis is placed on two activities: supplying timely, accurate information to the economy as a whole or to a certain segment; and providing desired services to business."

Not all BDSA programs require top level action, but BDSA is an instrument through which business can have a voice in policy decisions of the government. Mr. Ware added that some group is continually servicing business by advising and assisting other government agencies whose actions affect industry.

In conclusion, Mr. Ware reminds that whether BDSA is simply furnishing information to an individual businessman or working on national legislation, the staff is ready to serve American business. But it must know when, where and how to operate most effectively.

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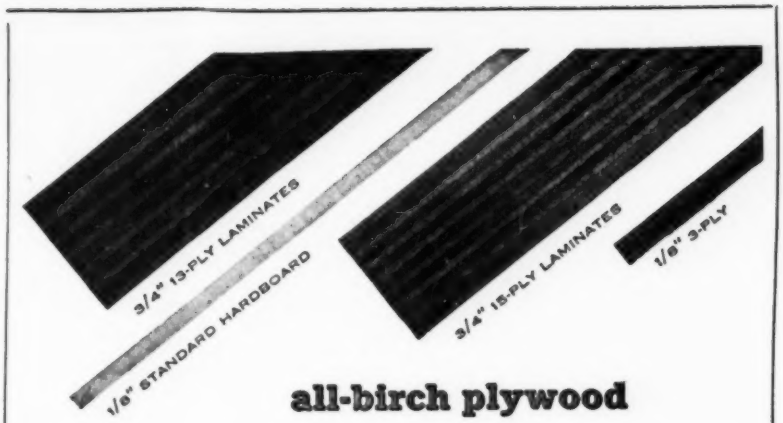

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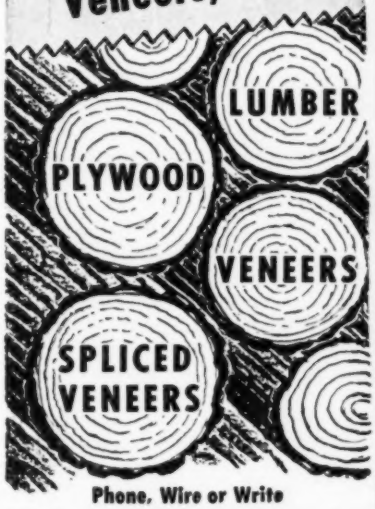

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Wood Salutes

LEE ROBINSON

SIX MONTHS AGO they chose Lee Robinson as "Hardwood Industry Man of the Year." Symbolizing the award, they gave him a figured red gum plaque and some fine verbal "bouquets."

The occasion was the annual convention of the Southern Hardwood Producers, Inc., in New Orleans. Established in 1952, the award is given to the man who, in the opinion of the judging committee, has made the most valuable contribution to the general welfare of the hardwood industry. Last year's winner was John B. Veach, president of Hardwood Corp. of America.

As so often is the case, nothing that was said then or is written here could begin to describe the amount and scope of the work Lee Robinson has done for his industry during the 40 years or more he has spent in the field. His name was selected from the list of nominations because of his outstanding record of service, not only to the hardwood industry but to the nation. Especially noteworthy has been his work during periods of national emergency and in matters pertaining to federal legislation bearing on the hardwood field.

Lee Robinson's early years in the lumber business were spent in Kentucky before World War I. It was in 1917 or 1918 that he moved into the Mobile area, where he has since won fame as head of the Mobile River Sawmill Co., Mount Vernon, Ala.

His active participation in hardwood industry affairs began in the early 1930's when he was president of the old Hardwood Manufacturers' Institute, forerunner of today's Southern Hardwood Producers, Inc. In the "Blue Eagle" days he represented the southern hardwood producers on the NRA lumber code authority.

Since that time he has served on innumerable industry committees. His efforts included work on the OPA hardwood price committee in World War II and OPS committee work during the Korean war, and service as either officer or director of many trade groups.

In 1950 he was first elected president of the National Hardwood Lumber Association, an office which he held for two terms. He now functions as a member of the NHLA executive committee and is also a vice-president of the National Lumber Exporters Association.

P.S.—It is said on good authority that some of Lee Robinson's intimate friends are thinking seriously of "chippin' in" and giving him some kind of award for his poker playing.

Dimension Men Issue Booklet

Of interest to all users of kiln-dried hardwood parts is a booklet entitled "How to Cut Your Costs with Kiln-Dried Hardwood Dimension," released by the Hardwood Dimension Manufacturers Association, Nashville, Tenn. This colorful booklet tells both in text and picture cost-reducing factors which warrant consideration by the prospective user of purchased kiln-dried hardwood dimension parts, including: reduced unit transportation costs; reduced materials inventory; reduced ground and floor space; lower overhead expenses; definite raw material cost; waste disposal problems simplified; and proximity of dimension to vast timber and lumber supplies. The booklet gives an educational tour of the industry which supplies kiln-dried hardwood dimension parts to all users of hardwood parts for assembly into various products.

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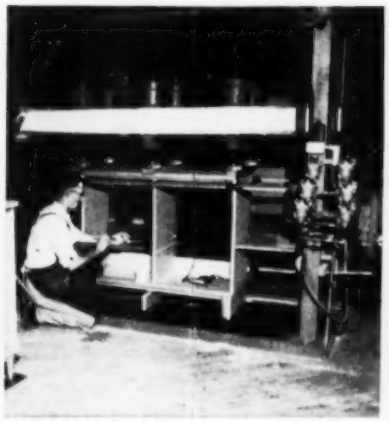

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